

GUIDE TO THE

Mammals of

Pennsylvania



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Woodchuck

SCIENTIFIC NAME

Marmota monax (*Marmota* is Latin for "marmot"; *monax* is from the Greek word *monas*, meaning "alone" or "solitary.")

SUBSPECIES IN PENNSYLVANIA

Marmota monax monax;

Marmota monax rufescens

ALSO CALLED

Groundhog, chuck, marmot, whistle pig, whistler, red monk

TOTAL LENGTH

528–650 mm (20.6–25.4 in.)

LENGTH OF TAIL

100–170 mm (3.9–6.6 in.)

WEIGHT

2–5 kg (4.4–11 lbs.)

MAMMAE

Four pairs

POPULATION DENSITY

7–20/ha (3–8/acre)

HOME RANGE

0.5–3 ha (1.2–7.4 acres)

LONGEVITY

3–4 yrs. in the wild;
approximately 6 yrs. in captivity



 *M. m. monax*
 *M. m. rufescens*



Description

The woodchuck is the largest member of the squirrel family in Pennsylvania. Its white front incisors also make the woodchuck unique among Pennsylvania sciurids; the front incisors of other members of the family are yellowish.

The woodchuck has thick, coarse fur. Its coat is yellowish brown to brown on the back with slightly paler underparts. Because its reddish brown guard hairs have white tips, the woodchuck appears grizzled or frosted. Albino and melanistic (black) individuals occur occasionally. Although sexes are colored alike, males tend to be slightly larger than females. The annual adult molt extends from May to August or September and usually takes less than four weeks to complete.



Woodchuck (*Marmota monax*).

The woodchuck shows many adaptations for fossorial (burrowing) life. It has short, powerful legs with forefeet equipped with four well-developed toes having long, curved claws. The thumb (pollex) is reduced to a short stump with a blunt claw. The head is blunt and flat with small eyes and small, round ear pinnae (flaps) that can be closed over the ear openings to keep out dirt.

Ecology

In Pennsylvania, the woodchuck prefers to live in open fields, fence-rows, and forest edges supporting brushy cover. Mature forests of beech, maple, and poplar characterized by rocky outcrops as well as hayfields and pastureland provide suitable habitat. Because of its excavational tendencies, the woodchuck is generally disliked

by farmers, gardeners, and golf-course groundkeepers. *Marmota monax* is actually beneficial, however, because its feces fertilize the soil and its digging loosens and aerates the soil. In the state of New York, woodchucks are reported to turn over 1,600,000 tons of soil each year (Whitaker, 1980).

The food habits of *M. monax* are as varied as its habitats. It feeds chiefly on cultivated alfalfa and clover, a variety of grasses, and succulent herbs such as dandelion, goldenrod, aster, daisy, wild mustard, and onions. Much to the dismay of gardeners, the woodchuck gladly feasts on vegetables such as beans, peas, carrots, and corn. In autumn, apples are consumed. Forest residents will even forage on leaves and buds of herbaceous plants such as *Clintonia*. Although principally a vegetarian, the woodchuck occasionally eats invertebrates such as grasshop-

pers, june beetles, and even snails. Unlike some other sciurids, such as chipmunks and tree squirrels, it does not cache food.

Predators of the woodchuck include dogs, foxes, minks, weasels, large hawks, and owls. Each year, humans kill many woodchucks—either for sport, because *M. monax* is a garden pest, or by accident when the woodchuck is “sunbathing” and foraging along the roadside. Also, *M. monax* occasionally suffers from malocclusion or improper growth of the incisor teeth. The failure of the upper and lower incisors to meet correctly may prevent proper wear of this rodent’s continuously growing teeth and cause the incisors to grow in a circular pattern. As a result, the woodchuck may be unable to feed normally and may starve, or one of the teeth may curve until it eventually penetrates the skull and kills the animal.

The woodchuck is parasitized externally by ticks, lice, mites, chiggers, and fleas. Internally, it is infected by roundworms. It is also infested by the larvae of the botfly and is susceptible to tularemia, rabies, and arteriosclerosis.

Behavior

The woodchuck spends a great deal of time resting in its den. Principally diurnal, the animal can be seen during midmorning and afternoon sunbathing and foraging in pastures and fields. It is primarily terrestrial and can gallop up to speeds of 16 kilometers per hour (10 mi./hr.). It may also climb small trees searching for

food and, although not particularly fond of water, is an adept swimmer.

Marmota monax seldom ventures farther than about 100 meters (325 ft.) from its den entrance. Having good vision, the woodchuck is rarely taken by surprise. If alarmed, it rapidly retreats to the safety of its den. Nonetheless, *M. monax* is a strong, furious fighter; its incisors are formidable weapons most dogs avoid.

The woodchuck vocalizes in a unique, loud, shrill whistle—hence, the vernacular name *whistle pig*. Other calls include hissing, growling, and squealing sounds. When angered, the woodchuck chatters its teeth.

As the species name *monax* denotes, this rodent generally lives alone but may also reside in small family groups. It constructs extensive burrows. Entrances are marked by an elevated mound of soil where, when a burrow is active, fresh tracks can be seen. This “front porch” acts as a good site for sunbathing and as a lookout for intruders. Two dens may be established: one for summer and one for winter occupancy. The winter den is situated in brushy or wooded areas, whereas the summer den is found in flat, open country such as pastureland. The woodchuck also commonly uses the winter den as year-round quarters.

Burrows vary greatly, ranging from 0.6 to 1.8 meters (2–6 ft.) in depth, with tunnels reaching up to 15 meters (50 ft.) in length. Each burrow has a main entrance and one or more secondary entrances. The burrow system includes nest chambers, a hibernating chamber,

and a "latrine"—all of which radiate off from the main tunnel. Nest and hibernating chambers, which are about 40 to 45 centimeters (16–18 in.) in diameter and some 25 centimeters (10 in.) high, are lined with dead leaves and grass.

The woodchuck is one of the few true hibernating mammals in Pennsylvania. In midsummer, it begins putting on essential fat for hibernation. Just prior to hibernation, its weight is about 30 percent greater than that in early summer. In autumn, after lining its hibernaculum with leaves and grasses, the obese woodchuck moves into its den, plugs the entrances, and curls up into a tight ball. The earthen plug is important in maintaining proper temperature and humidity in the den; the temperature remains about 13°C (56°F) during winter regardless of outside temperature changes. These plugs also ensure that unwelcome visitors such as skunks, opossums, and foxes do not interrupt the woodchuck's winter dormancy.

During the period of hibernation, which runs from about late October to early March, the woodchuck's body temperature remains about 4.4°C (40°F), some 32°C (57°F) below normal. At this time, the breathing rate slows and the heartbeat drops from over 100 beats per minute to only 4 beats per minute. In spring, arousal occurs with males emerging first. At this time, the woodchuck is rather skinny, having lost almost one-half the autumn weight. Females emerge in March, and mating occurs immediately.

Contrary to popular belief, the woodchuck is a poor "weather-man." No scientific evidence supports the postulate that each year, on February 2, "Punxsutawney Phil" will predictably emerge from his den and forecast the weather for the next six weeks. As one author/naturalist recently observed, "This is perfectly wholesome silliness, but its relation to natural history is about the same as that of the tooth fairy to dentistry" (Gilbert, 1985).

Reproduction and Development

From two to nine young (normally four or five) are born between mid-April and mid-May, following a gestation period of about 32 days. Pups are born naked, helpless, and wrinkled. They are a dark pink color, and their eyes are closed. Newborns weigh about 26 grams (1 oz.)—about the size of an adult red-backed vole—and measure some 105 millimeters (4 in.) long. At four weeks of age, their eyes open, a short pelage is apparent, and they are able to forage near the burrow entrance. Weaning occurs at about five to six weeks of age, and, when two months old, the young are on their own. Dispersal of juveniles from the natal burrow occurs at this time. Woodchucks produce only one litter per year, and young generally reach sexual maturity at one year of age but normally do not breed until two years old.