

Natural History of the House Mouse

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Mus musculus Linnaeus

<http://www.discoverlife.org/nh/tx/Vertebrata/Mammalia/Muridae/Mus/musculus/>

Physical Characteristics: The house mouse is a small brownish-gray mouse with a long, slender, tapering, indistinctly bicolored tail. The tail is sparsely haired and scaly. In nature the belly is grayish. Adults length is between 150 & 185 mm (5 3/4 - 7 1/2 in). Adults weigh from 14 to 28 g (1/2 - 1 oz).

Geographic distribution: The house mouse is native to Eurasia, probably originating in India, but it now has a worldwide distribution due to accidental introductions. This species was not known in the United States until about the time of the American Revolution when it is believed to have arrived as a stowaway aboard transatlantic ships. It is believed mice were first been transported to the southern United States along shipping lanes from the Iberian peninsula (Schwarz and Schwarz, 1943)

Habitat: Common in cultivated fields and in and around houses, cabins and barns.

Reproduction: House mice are very prolific. They breed throughout the year in portions of their range and may have as many as 12 or 13 young per litter, although 4 to 7 is the average. Gestation (pregnancy) is 18 to 20 days with an average of eight litters being produced annually.

a. Newborn young are blind and naked and have their eyes and ears sealed. The eyes open at about 14 days of age. The young grow rapidly and are normally weaned by 3 weeks of age. Most individuals are sexually mature at 2 months, although some may begin breeding at 5 weeks.

b. An indoor nest may be concealed in a hole, in the woodwork, or beneath some sort of shelter. The nest may be composed of cloth, rags, paper, or any other soft material. Outdoor nests may be located in corn shocks, beneath debris, or in burrows of other animals. Where nesting sites and material are scarce, house mice have been reported to occupy communal nests.

Longevity: Some captive house mice have lived 6 years, although the normal life span of this species is probably less than 2 years. Palmer (1954)

Terrestrial Ecology: House mice are usually associated with human habitations, but in many regions feral (wild) populations exist. Mice are often the most abundant mammal in cultivated fields.

a. House mice tend to be nocturnal (active at night), but may be active day or night during every month of the year. They do not hibernate. Signs of their presence include gnawings and small, black droppings.

b. House mice can climb well and readily jump from high places and are good swimmers for short distances. For example mice can jump 12 inches from a standing position and up to 3 feet from a run. They can also squeeze through openings just a little more than 1/4 inch in diameter. Mouse mice can run up almost all vertical surfaces.

c. Mouse sense of sight is poor, and they are colorblind, but their senses of smell, taste, touch, and hearing are excellent (Jackson, 1982). Actually, House mice have a sense of smell that far exceeds humans, having about 3 times as many olfactory (smell) receptors as humans. House mice use this sense to their advantage, for example male mice spray urine to "mark" key parts of their territory just like dogs and cats do.

d. House mice generally don't travel far once established, often limiting themselves to an area of 10 to 30 feet in diameter as long as food is plentiful.

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Niche & Food habits: House mice are omnivorous and feed on a wide range of items including grains, seeds, green vegetation, insects, and invertebrates in nature. However, in a home House mice will sample just about any type of food, especially high fat foods like butter, chocolate, bacon and nuts. Thus House mice can be very destructive if allowed to run free.

Predators: Snakes, owls, hawks, cats, foxes, weasels, and skunks are the major predators.

Scientific Use and Disease: The house mouse is one of the most important species for scientific research. It has a complex of several separate lineages and nearly 3000 different strains of natural mutants, and transgenic and targeted mutant mice. Most of these strains are being studied in educational and research settings throughout the world.

Please answer each question using complete, quality and correct sentences that reflect the question.

1. Explain where House mice originated **AND** how they came to be in the US.
2. Pretend that one female House mouse produced the maximum number of young in each of her litters, had the maximum amount of litters in one year, and **ALL** the young survived. Show how many offspring this female would have in one full year. Show your work.
3. Tell the maximum and normal ages of House mice.
4. Tell the House mouse's habitat **AND** niche.
5. Tell each of the House mouse's major predators **AND** tell each predators niche
6. House mice can be considered both good and bad for humans. Explain how the House mice can be considered as "good" for humans and also how these creatures can be "bad" for humans