

A guide to the Mammals of University Farm

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Important notes on this guide

- ❖ This is an introductory guide to the mammal species of University farm.
- ❖ It lists the species present or possibly present, and attempts to provide baseline information that will be useful to anyone wishing to learn more about the mammals found here.
- ❖ The physical descriptions are of the summer fur colorings/markings.
- ❖ Make sure you have a good field guide in hand before setting off to discover the mammals of the farm!
- ❖ There are some species that are not native to this area, classified as either introduced or non-native.
 - ❖ Introduced: Intentionally or unintentionally carried to this area by humans
 - ❖ Non-native: Species that has been able to expand its native range to include this area, often as a result of human activity

Important notes on this guide

- ❖ Throughout this guide you will find notes on the conservation status of species, both in the state of Ohio and worldwide.
 - ❖ Extirpated: A species that occurred in Ohio at the time of European settlement and has since disappeared from the state.
 - ❖ Extinct: A species that occurred in Ohio at the time of European settlement and has since disappeared worldwide.
 - ❖ Endangered: A species in immediate danger of becoming extirpated or extinct.
 - ❖ Threatened: A species that, with increased or continued danger, will become endangered.
 - ❖ Species of Concern: A species that, with increased or continued danger, will become threatened.
- ❖ Information on mammals that occurred or may have occurred at the farm but are now extirpated or extinct can be found at the end of this guide.

Class Mammalia - Mammals

- ❖ Warm blooded
- ❖ Young are usually born live
- ❖ Young are rather helpless for a time after birth, and usually feed on milk from mother
- ❖ Skin covered with hair or fur
- ❖ Several orders, grouped into the two subclasses Prototheria (egg-laying mammals) and Theria (includes the infraclasses Metatheria [marsupials] and Eutheria [placental mammals])

Didelphis virginiana

Opossum

- ❖ Class Mammalia
 - ❖ Order Marsupialia
 - ❖ Family Didelphidae
- ❖ Prefers riparian and swamp habitats
- ❖ Gray, white and black; long snout with long whiskers, scaly tail
- ❖ Documented mostly in forests, but may be seen anywhere; common



Source: http://animaldiversity.ummz.umich.edu/site/resources/phil_myers/classic/didelphis_virginiana.jpg/view.html

Blarina brevicauda

Short-tailed shrew

- ❖ Class Mammalia
 - ❖ Order Insectivora
 - ❖ Family Soricidae
- ❖ Prefers damp, brushy forests and field edges
- ❖ Slate gray; short tail and snout, ears hidden by fur; 75-105mm long
- ❖ Documented mostly in forest ravines, sometimes in fields; scarce



Source: www.daviessaudubon.org/shorttailed_shrew.htm

Sorex fumeus

Smoky shrew

- ❖ Class Mammalia
 - ❖ Order Insectivora
 - ❖ Family Soricidae
- ❖ Prefers to hide in leaf litter of most forest types
- ❖ Silver/gray; long snout, visible ears, long tail without fur
- ❖ Documented in the forest interior, mostly in ravines; common



Source: http://www.enature.com/fieldguide/showSpecies_LL.asp?imageID=18923

Sorex cinereus

Masked shrew

- ❖ Class Mammalia
 - ❖ Order Insectivora
 - ❖ Family Soricidae
- ❖ Prefers fields and forests with moist, sandy soil
- ❖ Brown above, white beneath; short snout, tail almost as long as rest of body; avg. 99mm long
- ❖ Not documented on property, but likely present



Source: <http://faculty.cns.uni.edu/~demastes/Mammalogy/pics/sorex1.JPG>

Scalopus aquaticus

Eastern mole

- ❖ Class Mammalia
 - ❖ Order Insectivora
 - ❖ Family Talpidae
- ❖ Prefers fields and open areas
- ❖ Dark gray to copper; large clawed feet; round, nearly hairless tail
- ❖ Not documented on property, but likely abundant



Source: http://www.discoverlife.org/nh/tx/Vertebrata/Mammalia/Talpidae/Scalopus/aquaticus/images/Scalopus_aquaticus.640.jpg

Parascalops breweri

Hairy-tailed mole

- ❖ Class Mammalia
 - ❖ Order Insectivora
 - ❖ Family Talpidae
- ❖ Prefers meadows and 2nd growth forest with dry soil
- ❖ Black; large clawed feet; short snout; short, hairy tail
- ❖ Not documented on property, but likely present



Source: <http://tim.rawle.org/moles/gallery/htail.htm>

Condylura cristata

Star-nosed mole

Species of concern in Ohio

- ❖ Class Mammalia
 - ❖ Order Insectivora
 - ❖ Family Talpidae
- ❖ Prefers wet forests and meadows
- ❖ Black/brown; large clawed feet; hairless snout with 22 fleshy “tentacles”
- ❖ Not documented on property, but likely present



Source: http://www.discoverlife.org/nh/tx/Vertebrata/Mammalia/Talpidae/Condylura/cristata/images/Condylura_cristata.Smithsonian.640.jpg

Evening bats, Vesper bats

- ❖ Class Mammalia
 - ❖ Order Chiroptera
 - ❖ Family Vespertilionidae
- ❖ Prefer to live in caves, but will use mine shafts, buildings, etc.
- ❖ Black/brown, long tails; forelimbs used in flight
- ❖ Unidentified species documented flying over ponds at dusk and dawn; likely common



Source: www.terrambiente.org/fauna/Mammiferi/chiroptera/

Sylvilagus floridanus

Eastern cottontail

- ❖ Class Mammalia
 - ❖ Order Lagomorpha
 - ❖ Family Leporidae
- ❖ Prefers shrubby forest edges
- ❖ Brown/white/gray; long ears; underside of short tail is white
- ❖ Documented in forests and along fence rows; scarce



Source: <http://www.nenature.com/Images/EasternCottontailLAT.jpg>

Marmota monax

Woodchuck, Groundhog

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Sciuridae
- ❖ Prefers forest edges and open farmland
- ❖ Brown; short legs; broad, flat head; small ears; large incisors
- ❖ Documented mostly in fields and forest edges, also forest interior; abundant



Source: [toadstool.se/journal/ category/outdoors/](http://toadstool.se/journal/category/outdoors/)

Tamias striatus

Eastern chipmunk

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Sciuridae
- ❖ Prefers forest interiors, but avoids dense shade
- ❖ Reddish brown, 5 black stripes on back; pouched cheeks; short, furry tail
- ❖ Documented in all forested areas, more common in old growth forests; abundant



Source: http://theenchantedforest.com/Communities/Eastern_Chipmunk.jpg

Tamisciurus hudsonicus

Red squirrel

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Sciuridae
- ❖ Prefers dense forests of virtually any composition
- ❖ Reddish back, often with a black stripe on side; relatively small tail
- ❖ Documented in all forests, but more common on Valley Ridge Property; common



Source: http://animaldiversity.ummz.umich.edu/site/resources/phil_myers/classic/rs7.jpg/view.html

Sciurus niger

Eastern fox squirrel

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Sciuridae
- ❖ Prefers forests with a high species richness
- ❖ Brown/orange back; larger than red squirrel; large, very bushy tail
- ❖ Documented everywhere trees occur, but more common in old growth forests; abundant



Source: <http://dirttime.ws/Notebook/Squirrel.htm>

Glaucomys volans

Southern flying squirrel

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Sciuridae
- ❖ Prefers mature forests with many seed-producing hardwoods
- ❖ Brown/white; membrane of skin from wrist to ankle for gliding; flat tail
- ❖ Not documented on property, but likely present



Source: http://animaldiversity.ummz.umich.edu/site/resources/phil_myers/classic/glaucomys_volans.jpg/medium.jpg, http://zivly.koniklec.cz/kon_luft/obrazky/v_glaus.jpg

Peromyscus leucopus

White-footed mouse

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Muridae
- ❖ Prefer warm, dry forests and brushy areas
- ❖ Tan/white; long, slender tail; large, rounded ears
- ❖ Documented in forests and woody fence rows, occasionally in fields; abundant



Source: faculty.evansville.edu/ck6/bstud/mouse.html

Microtus pennsylvanicus

Meadow vole

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Muridae
- ❖ Prefer lowland fields bordering rivers and lakes
- ❖ Reddish-brown/gray; tail as long as rest of body; small ears
- ❖ Documented in old fields and orchards, not in forests; common



Source: http://www.fcps.k12.va.us/StratfordLandingES/Ecology/mpages/meadow_vole.htm

Ondatra zibethicus

Muskrat

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Muridae
- ❖ Prefer marshes with water 4-6 feet deep
- ❖ Brown; scaly tail 9" long, body 3" long; large feet webbed for swimming
- ❖ Documented occasionally around ponds, population likely declining; scarce



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www.hlasek.com
Ondatra zibethicus da1036

Source: http://www.hlasek.com/ondatra_zibethicus_da1036.html

Rattus norvegicus

Norway rat, Brown rat

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Muridae
- ❖ Native habitat in China was forests, but here it occurs anywhere humans establish dwellings
- ❖ Brown; large, hairless ears; long tail; 40cm long
- ❖ Not documented on property, but likely present

Introduced



Source: <http://www.museum.vic.gov.au/bioinformatics/mammals/images/norvlive.jpg>

Mus musculus

House mouse

Introduced

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Muridae
- ❖ Native to Asia (habitat unknown); now worldwide, mostly in human dwellings
- ❖ Brownish/white; long, hairless tail with circular scales; large, oval ears
- ❖ Not documented on property; likely common



Source: http://www.freenet.de/freenet/fit_und_gesund/bildershow/ungeziefer/bilder_gross/15.jpeg

Zapus hudsonius

Meadow jumping mouse

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Zapodidae
- ❖ Prefers moist grasslands
- ❖ Yellow & brown; large back legs; tail almost twice as long as body
- ❖ Documented in the fields adjacent to forest edges; scarce



Source: http://www.discoverlife.org/nh/tx/Vertebrata/Mammalia/Dipodidae/Zapus/hudsonius/images/Zapus_hudsonius.320.jpg.html

Vulpes vulpes

Red fox

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Canidae
- ❖ Prefer areas with diverse habitat types, particularly farmlands
- ❖ Yellowish-red/white; black paws; thick tail
- ❖ Documented traversing all terrestrial habitats; common



Source: www.nhptv.org/natureworks/redfox.htm

Urocyon cinereoargenteus

Gray fox

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Canidae
- ❖ Prefers larger tracts of deciduous forests
- ❖ Gray back, grey-red sides, white belly, black tip on tail
- ❖ Not documented on property, but is possibly present



Source: http://www.homestead.com/irothman/files/w_gray_fox.jpg

Canis latrans

Coyote

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Canidae
- ❖ Found in all terrestrial habitats, preferably those without wolves
- ❖ Gray/brown/yellow, reddish legs; drooping tail; larger than foxes
- ❖ Recently documented on property, due to range expansion; scarce

Non-native



Source: <http://tipt3.utoledo.edu/starters/coyote/coyote2a.jpg>

Procyon lotor

Raccoon

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Procyonidae
- ❖ Prefer woodlands near water; den in trees
- ❖ Black mask across eyes; bushy tail with several black rings; tail as long as body
- ❖ Documented everywhere on property; abundant



Source: <http://www.loomcom.com/raccoons/gallery/jpegs/fish>

Mustela erminea

Short-tailed weasel, ermine

Species of concern in Ohio

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Mustelidae
- ❖ Prefers shrubby, riparian woodlands
- ❖ Brown/white; black tip on tail (1/3 of total length)
- ❖ Likely scarce if present; one unidentified individual of the *Mustela* genus documented on property



Source: <http://popgen0146uns50.unimaas.nl/~jlindsey/commanster/Mammals/SpMammals/Mustela.erminea.jpg>

Mustela frenata

Long-tailed weasel

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Mustelidae
- ❖ Prefers open woodlands and suburban areas
- ❖ Red-brown/yellow-white; tail as long as body
- ❖ Likely scarce if present; one unidentified individual of the *Mustela* genus documented on property



Source: http://www.washington.edu/burkemuseum/collections/mammalogy/mamwash/Images/must_fr.jpg

Mustela nivalis

Least weasel

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Mustelidae
- ❖ Prefers open woodlands and farmlands
- ❖ Brown/white; very short tail; large, round ears
- ❖ Likely scarce if present; one unidentified individual of the *Mustela* genus documented on property



Source: http://dnr.state.il.us/orc/wildlife/virtual_news/images/least_weasel/least_weasel.jpg

Mustela vison

American mink

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Mustelidae
- ❖ Prefers wooded streams, ponds and lakes
- ❖ Brown-black all around; tail as long as body
- ❖ Likely scarce if present; one unidentified individual of the *Mustela* genus documented on property



Source: http://isabelbodhisattva.blogs.sapo.pt/arquivo/2005_04_01.html

Mephitis mephitis

Striped skunk

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Mustelidae
- ❖ Prefers open woodlands and grasslands, <2 miles from water
- ❖ Black with white stripe between eyes & forked white stripe on back
- ❖ Not documented on property, but likely present



Source: <http://www.radio-canada.ca/jeunesse/betes/studio/283/fiche/>

Lynx rufus

Bobcat

Endangered in Ohio

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Felidae
- ❖ Found in forests and brushlands
- ❖ Brown with black stripes and spots; short tail; tufts of hair on side of face
- ❖ Not documented on the property; scarce if present



Source: http://www.lioncrusher.com/images/Bobcat_02.jpg

Ursus americanus

American black bear

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Ursidae
- ❖ Prefer remote habitat with thick understory vegetation
- ❖ Black/brown with pale muzzle; furry ears; convex profile
- ❖ Not documented on property, but possible to see

Endangered in Ohio



Source: http://animals.timduru.org/dirlist/bear/AmericanBlackBear_07-Closeup-OnGrass.jpg/

Odocoileus virginianus

White-tailed deer

- ❖ Class Mammalia
 - ❖ Order Artiodactyla
 - ❖ Family Cervidae
- ❖ Prefers forest edges with dense undergrowth
- ❖ Brown-gray; underside of tail is white; 3' tall
- ❖ Documented in old orchards, but will traverse all terrestrial habitat; common



Source: http://www.fcps.k12.va.us/StratfordLandingES/Ecology/mpages/white-tailed_deer.htm

Summary of Mammals at the University Farm

❖ Class Mammalia

❖ Order Marsupialia

❖ Family Didelphidae

❖ *Didelphis virginiana* C

❖ Order Insectivora

❖ Family Soridicae

❖ *Blarina brevicauda* S

❖ *Sorex fumeus* C

❖ *Sorex cinereus* P

❖ Family Talpidae

❖ *Scalopus aquaticus* P

❖ *Parascalops breweri* P

❖ *Condylura cristata* P

❖ Order Chiroptera

❖ Family Vespertilionidae C

❖ Order Lagomorpha

❖ Family Leporidae

❖ *Sylvilagus floridanus* S

❖ Order Rodentia

❖ Family Sciuridae

❖ *Marmota monax* A

❖ *Tamias striatus* A

❖ *Tamiasciurus hudsonicus* C

❖ *Sciurus niger* A

❖ *Glaucomys volans* P

A = abundant C = common S = scarce
P = possible to see, though not previously reported

Summary of Mammals at the University Farm

❖ Class Mammalia (contd.)

❖ Order Rodentia (contd.)

❖ Family Muridae

- ❖ *Peromyscus leucopus* A
- ❖ *Microtus pennsylvanicus* C
- ❖ *Ondatra zibethicus* S
- ❖ *Rattus norvegicus* P
- ❖ *Mus musculus* P

❖ Family Zapodidae

- ❖ *Zapus hudsonius* S

❖ Order Carnivora

❖ Family Canidae

- ❖ *Vulpes vulpes* C
- ❖ *Urocyon cinereoargenteus* P
- ❖ *Canis latrans* S

❖ Family Procyonidae

- ❖ *Procyon lotor* A

❖ Order Carnivora (contd.)

❖ Family Mustelidae

- ❖ *Mustela erminea* P
- ❖ *Mustela frenata* P
- ❖ *Mustela nivalis* P
- ❖ *Mustela vison* P
- ❖ *Mephitis mephitis* P

❖ Family Felidae

- ❖ *Lynx rufus* P

❖ Family Ursidae

- ❖ *Ursus americanus* P

❖ Order Artiodactyla

❖ Family Cervidae

- ❖ *Odocoileus virginianus* C

A = abundant C = common S = scarce
P = possible to see, though not previously reported

Extirpated Mammals of Ohio

The following mammals can no longer be found in Ohio. Though they were never documented at University Farm, it is possible that they once occurred here.

Oryzomys palustris

Marsh rice rat

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Muridae
- ❖ Status: **Extirpated**
- ❖ Brown; bottoms of feet are white; tail longer than body; tail dark on top and light on bottom
- ❖ Currently found in the southeastern US, as far north as Kentucky

Endangered worldwide



Source: <http://www.discoverlife.org/nh/tx/Vertebrata/Mammalia/Muridae/Oryzomys/palustris/#Geographic%20distribution>

Erethizon dorsatum

North American porcupine

- ❖ Class Mammalia
 - ❖ Order Rodentia
 - ❖ Family Erethizontidae
- ❖ Status: **Extirpated**
- ❖ Dark brown; quills, often tipped with light color, on all of the dorsal surface
- ❖ Currently found in Canada, the western US and the northeastern US as far south as New York



Source: http://animaldiversity.ummz.umich.edu/site/resources/corel_cd/porcupine.jpg/view.html

Canis lupus

Timber wolf, gray wolf

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Canidae
- ❖ Status: **Extirpated**
- ❖ Appearance varies widely, depending on location; largest wild canine species
- ❖ Currently found in the western US and Canada; once covered nearly the entire northern hemisphere

Endangered worldwide



Source: http://animaldiversity.ummz.umich.edu/site/resources/corel_cd/wolves.jpg/view.html

Martes americana

American marten

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Mustelidae
- ❖ Status: **Extirpated**
- ❖ Gray head, white chest, legs and tail darker than body; large eyes; cat-like ears
- ❖ Currently found as far south as parts of Michigan and New York

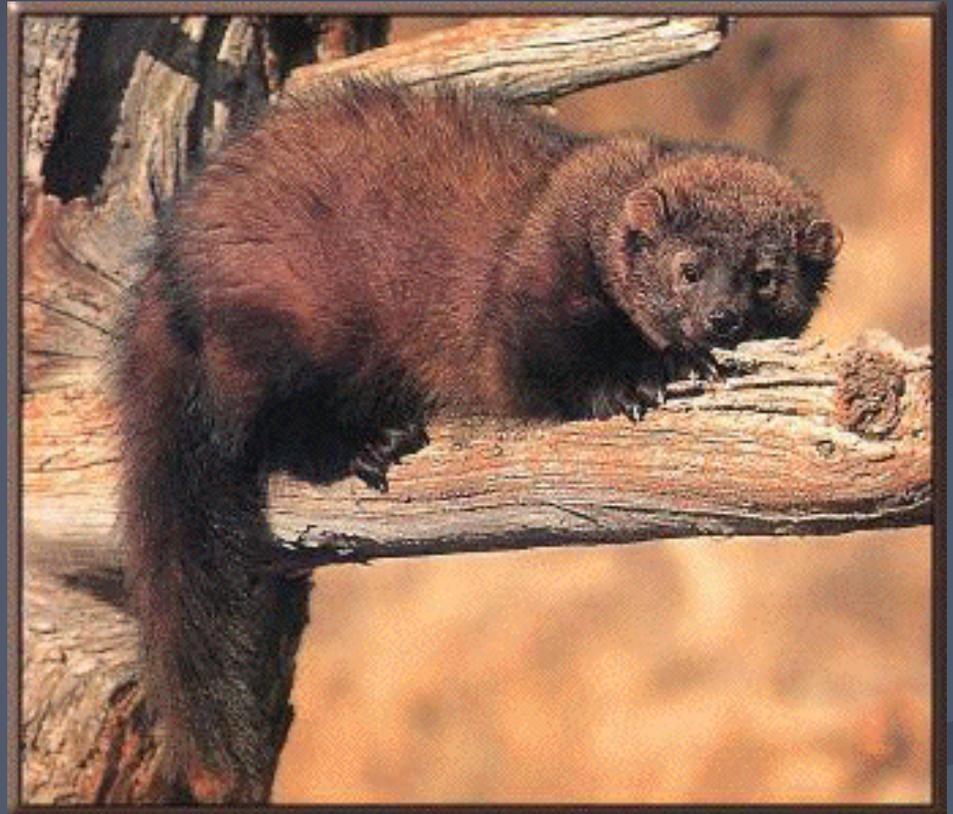


Source: http://www.northpolealaska.com/BeaverSprings/Nature/Wildlife/Mammals/american_marten.jpg

Martes pennanti

Fisher

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Mustelidae
- ❖ Status: **Extirpated**
- ❖ Brown with black feet and tail
- ❖ Currently found in Canada, as well as down the Sierra Nevada and Appalachian mountain ranges



Source: <http://www.pjc.cc.fl.us/sctag/extra/fisherpic.gif&imgrefurl>

Puma concolor

Mountain lion, cougar, puma

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Felidae
- ❖ Status: **Extirpated**
- ❖ Light brown; largest native feline
- ❖ Currently found as far east as Missouri; isolated population in Florida; once covered almost all of North and South America



Source: <http://sciway2.net/2002/a26e/pumaintreel.jpg>

Lynx canadensis

Canada lynx

- ❖ Class Mammalia
 - ❖ Order Carnivora
 - ❖ Family Felidae
- ❖ Status: **Extirpated**
- ❖ Similar to bobcat, but longer fur, larger body, less conspicuous spots, extremely short tail, long legs
- ❖ Currently found as far south as New England

Threatened worldwide



Source: <http://gladstone.uoregon.edu/~jcooper3/canada/canada%20lynx.jpg>

Cervus canadensis

Elk, wapiti

- ❖ Class Mammalia
 - ❖ Order Artiodactyla
 - ❖ Family Cervidae
- ❖ Status: **Extirpated**
- ❖ Dark, shaggy mane on neck; dark brown with white rump
- ❖ Currently found in the Rocky Mountains; small, isolated population in Michigan; once covered most of North America



Source: <http://www.bnpsworldwide.com/calendars/elk13.jpg>

Bison bison

American bison

- ❖ Class Mammalia
 - ❖ Order Artiodactyla
 - ❖ Family Bovidae
- ❖ Status: **Extirpated**
- ❖ Massive animal with shoulder hump; large head; long hair in front
- ❖ Currently found only on protected and private lands in western North America; once covered entire continent



Source: http://animaldiversity.ummz.umich.edu/site/resources/corel_cd/bison.jpg/view.html

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