



By Christine Petersen

Awesome Opossums

This relative of kangaroos has made itself at home in Minnesota.



1607 a small group of Englishmen landed three ships on the banks of the Jamestown River in a place that later became part of the state of Virginia. They hoped to settle there and build the first English colony, or village, in North America.

While hunting in the forest, Captain John Smith found an odd animal with grizzled, gray fur and a bare, scaly tail. Its long, white face ended in a shiny, pink nose. To Smith, this creature looked like a patchwork of a cat, a rat, and a pig. Then he noticed something even more unusual—a pouch hidden in the skin of the animal’s belly. Within this fur-lined pocket, a litter of baby opossums was curled up, warm and safe.

Captain Smith had traveled across Europe and Africa, but he had never encountered any creature like this. He asked the local Powhatan Indians what they called it. *Apasam*, they replied. It meant “white animal.” Sounding out the word, Smith wrote it in his journal—*opassum*. The word later changed to *opossum*.

BILL MARCHEL

Parents With Pouches

The Virginia opossum (*Didelphis virginiana*) is a mammal. Mammals have hair and produce milk to feed their young. Most baby mammals develop inside the mother's body and are born fully formed. Opossums are *marsupials*. They deliver tiny babies whose heart, brain, and other organs are still growing. The marsupial

mother has a pouch where their newborns stay and nurse until fully formed.

The Virginia opossum is North America's only marsupial. South America and Central America have a total of about 75 species (kinds) of marsupials. Kangaroos and koalas, marsupial relatives of opossums, live in Australia.

Pouch Babies

Opossums in Minnesota mate between January and May. A female opossum often bears two litters of six to 20 babies each year. A full-grown opossum is about the size of a house cat. A newborn opossum is only half an inch long and weighs far less than a penny. It would take around 16 of them to weigh as much as a penny.

Born blind and hairless, the baby opossum has a strong instinct to survive. It can feel the pull of gravity and uses its tiny front claws to climb up its mother's belly and into her pouch. There it finds a nipple, also called a *teat*, which provides mother's milk. Each baby latches onto one and won't let go for many weeks.

Like kangaroos, young opossums are sometimes called *joey*s. After about 70 days, opossum joey's begin to explore, climbing in and out of the pouch. After another month, the mouse-size joey's crawl onto their mother's back and ride



Opossum newborns move into their mother's warm, fur-lined pouch for their first few weeks of life.

along as she searches for food. They practice survival skills, such as how to climb trees and stay away from predators.

Young opossums also learn the importance of cleanliness. Wetting their front paws with saliva, joey's bathe from top to bottom every day. Their long claws make good combs to remove tangles, bits of food, and insect pests.

When they are 4 months old, opossums leave their mother and face the world alone.

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After they leave the pouch, young opossums often hitch a ride on their mother, clutching onto her fur.

True Grip

Have you heard that opossums hang by their tails? Actually, they rarely do this. The opossum uses its long *prehensile* (able to grasp) tail for balance and to grip as it climbs trees.

See the way your thumb separates from the other four fingers? That arrangement allows you to wrap your hand around all kinds of things. The opossum has a similar *opposable* digit on each hind foot, perfect for clutching tree branches. All four feet have claws and pads with tiny ridges. Just as cleats prevent a soccer player from skidding on a grassy field, the opossum's textured feet keep it steady while climbing.

Rarely Sick

Opossums rarely become ill with rabies and other wildlife diseases that can pass to people or pets. Perhaps that is because the opossum's normal body temperature is several degrees lower than that of other mammals. Most viruses need warmer conditions to survive.

How Smart?

The opossum is a slow-moving creature with a reputation for not being very smart. For example, when faced with a car's flashing headlights or honking horn, an opossum in the road does not run. The danger does not seem to alarm the opossum. Sometimes a person can walk right up to an opossum without scaring it away. Because of the opossum's slow reaction to possible danger, some people think opossums are "stupid."

But this species has survived for eons and even expanded its range. How smart is the opossum?

Well, the opossum does have an unusually small brain. Scientists say it has a small *encephalization quotient*, meaning its brain is much smaller than expected based on its body size. And the opossum is missing a connection between the left side and the right side of its brain. Like other marsupials, the opossum lacks a *corpus collosum*, a band of nerve fibers that runs between the left and right brain hemispheres.

Opossums are nice critters that are just slow to process incoming information.

—DNR furbearer biologist John Erb



A hollow tree can be a shelter for an opossum, but not for long: It keeps moving and finding new homes.

Home for a Day

The opossum takes a relaxed approach to making a home. One day it might find an abandoned squirrel nest or a cozy space within a rock pile or a woodpile. The next day it might settle in a hollow tree or squeeze through a window to snooze in an old shed. Because the opossum doesn't dig or build shelters, it almost never damages buildings.

The opossum's biggest investment in

housing is the time it spends to make a simple grass bed. Carrying one load of grass in its tail and another in its mouth, the opossum brings the bundles to a favorite den to soften its nest.

But even a female with joeys rarely stays in one place for long. One researcher found that opossums in her study area traveled 15 miles in just two weeks.

What's for Dinner?

The opossum is *nocturnal*. After resting all day, the opossum goes out at night to feed. Although it doesn't see well, the opossum has exceptional senses of hear-

ing, smell, and taste. And it likes the taste of almost everything. It is an *omnivore*.

Waddling and wandering through the night, the opossum digs up earthworms

here and munches grasses there. A good swimmer, it might dip into a stream to catch a crayfish. With its 50 sharp teeth—the most found in any North American mammal—the opossum crunches through shells and munches small animal bones. It climbs trees to pick nuts and fruit.

People may think of opossums as pests when they eat fresh fruits and

vegetables. But opossums rarely take enough to do harm. In some cases, they are actually helpful. Opossums eat insect larvae and slugs, including some that could damage farm and garden plants. They dine on rotting fruits, vegetables, and dead animals, called *carrion*.

In this way, opossums serve as part of nature's cleanup and recycling crew.

Dangerous Dinner

The shy opossum can be a daring hunter. It sometimes eats a poisonous snake, such as the timber rattlesnake found in southeastern Minnesota's rocky prairie habitat. How does it do this without being killed by the snake's poisonous venom?

Opossums have hunted venomous snakes for millions of years. Over time,

opossums built up defenses against snakebites. One defense is a substance in the opossum's blood. Molecules of this substance can attach to and destroy snake venom as it moves through the opossum's body. Researchers are looking for ways to make a similar substance to treat people who get bitten by poisonous snakes.

ALLEN BLAKE SHELDON



BILL MARCHEL

Minnesota's winters are getting warmer, which might be helping the opossum move north in the state.



The opossum sometimes becomes frightened and appears to be dead—a tactic that can save its life.

Playing Possum for Predators

Opossums face many dangers. Traveling at night on roads, an opossum might get hit by a car. An opossum might fall prey to a great horned owl. Coyotes and foxes are other predators that eat opossums.

Whenever possible, the opossum's first choice is to run away from dogs, people, and other threats. Unfortunately, it cannot run fast. If it is cornered, the opossum will growl, hiss, and open its mouth to show its sharp teeth. But if this warning doesn't scare away the possible predator, the opossum collapses. This is called *playing possum*.

Playing possum is no joke. The frightened opossum does not choose to play possum, or pretend to be dead. It collapses because it is extremely scared and suffers a temporary nervous shock. Its tongue lolls out of its mouth, and its eyes stare. It drools and poops. Even if the predator bites, the opossum won't move. Its yucky body fluids and lack of movement usually cause predators to lose interest and go away.

After a few minutes or a few hours, when the danger has passed, the opossum gets up and continues on its way.

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An opossum mother's fur is cozy for her babies, or joeys, but it is not made for really cold winters.



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New Neighbors

When John Smith met his first opossum 400 years ago, this species did not live in our part of the country. Its range reached from the southeastern corner of North America down into Central America. Today, Virginia opossums live almost everywhere east of the Rocky Mountains. Unless you live in the far north, opossums are probably your neighbors too.

Opossums arrived in southeastern Minnesota sometime around 1900, but they aren't really equipped to survive cold winters. They and their ancestors evolved in southern climates with warmer seasons. This shows in their bodies and their habits. Their fur coat doesn't always keep them warm. Their large, thin ears and almost hairless tail make opossums vulnerable to frostbite and stress when temperatures dip below freezing. They do not *hibernate*—going into a sleeplike state throughout the winter. Nor do opossums stockpile food or build up a thick layer of fat to insulate and fuel them when fresh food is buried under piles of snow.


What brings this warm-weather animal into northern climates? Wildlife biologists have a few ideas. Over the past century, farms and towns have grown up along highways and rivers. Opossums might

have followed these roads west and north, enjoying free food from farm fields, garbage cans, roadsides, and pet bowls.

Historically, opossums lived in riverside forests. Now they are just as likely to show up in the city. Cities not only offer food, but they are also warmer in winter than forests are. Sidewalks, streets, and rooftops reflect sunlight, increasing the air temperature.

Climate change might also play a role in the northward movement of Virginia opossums. Climate change can be a natural process, such as when the Earth warmed after the last ice age. For the past century, people have been burning oil, coal, and gas to heat buildings, create electricity, and run cars and trucks. Burning these fuels also warms the Earth.

In Minnesota the average annual temperature has increased about 1.5 degrees since the early 1980s. The opossum needs only small temperature increases to survive in winter. For example, it might stay in its den for several days if the temperature is below 21. But if the temperature rises to 28, it can keep active all night.

With warmer winter temperatures, opossums have settled in Minnesota. These new neighbors add a little more wildness to our world. 

TEACHERS RESOURCES:

Teachers guide: www.mndnr.gov/young_naturalists