

The Outside Story



Opossums Are Moving North

By: Declan McCabe

The opossums that show up on my students' trail cameras at Saint Michael's College sometimes look out of place, with their naked tails and frostbitten ears that seem so poorly suited to Vermont weather. These amazing consumers of ticks did, after all, come from a different continent – or at least their ancestors did. And their official name, Virginia opossum (*Didelphis virginiana*), suggests a more southern home.

For as long as I have lived in the Burlington area of Vermont, opossums have been a common sight, albeit often as roadkill. This was not always the case. Daniel G. Elliot's 1901 "Synopsis of the

Mammals of North America and the Adjacent Seas" described the opossum's range as "New York on the Atlantic Coast to Florida and west to Mississippi and Texas." There is no mention of any New England occurrences. Further back in time opossums were even farther away.

Animals in the family Didelphidae, which includes the Virginia opossum, evolved on the South American continent and would likely have remained there absent an important geological upheaval. While opossum ancestors were evolving, South America was separated from North America by ocean water that flowed between the Pacific and the Atlantic. When the tectonic plates that had been slowly colliding caused enough volcanic land formation and uplift of the Earth's crust to form the Isthmus of Panama, about 2.7 million years ago, a land bridge formed between North and South America.

While many animals, including most of the Virginia opossum's relatives, were unaffected by the tectonic movements, some animals that evolved in the north went south, and vice versa. This Great American Interchange brought opossum ancestors to North America, and opossums remain the only marsupial on the continent. A professor in a class I took once joked that the opossums have been traveling north ever since.

Scholars of opossum lifestyles have linked northward travel by opossums to two main factors: human modification of habitat, and climate change. It is likely that opossums

traveled north until they reached the limits of their tolerance for cold conditions. Opossums do not hibernate and need to forage at least 35 days during winter to fend off starvation. But they are fair-weather mammals and will not look for food in deep snow or if it is colder than 28 degrees.

Opossums are omnivores, dining on everything from eggs to earthworms, small mammals, bird nestlings, amphibians, carrion, fruits, nuts, berries, and – of course – ticks. They'll even eat snakes on occasion and are impervious to the venoms of most snakes native to North America. Access to human refuse, compost piles, and perhaps the bowl of kibble you left on the porch for your dog help feed hungry opossums through the winter.

By the 1920s opossums had made it into Connecticut, and by the 1940s a full-scale New England invasion was underway, with populations in Massachusetts, Rhode Island, and southern Vermont and New Hampshire. To get a current opossum home-town snapshot, I took a dive into iNaturalist. Opossums have been recorded as far north as the Canadian border in western Vermont and even north of Montreal and Toronto. They have not yet been recorded in Vermont's Northeast Kingdom or in northern New Hampshire, but they have been spotted along coastal Maine, where the ocean moderates the winter chill. The most northerly Maine observations are in and above Augusta during the past four years. And if you find them farther north, by all means upload a photo to iNaturalist and participate in community science.

The opossum's northward shift during the past two centuries was in response to the opportunity presented by changing climates long before scientists had noticed much of a change. But climate is not the whole story. Farming practices that open up habitats and urbanization that provides food supplements seem to have facilitated the expansion. It's hard to know where the opossum's northward shift will end. But perhaps they have traveled far enough that we can drop the "Virginia" from the official name?

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