

# Allow me to introduce myself: Squirrels use rattle calls to identify themselves

April 12 2022, by Shannon M. Digweed

---



Credit: AI-generated image ([disclaimer](#))

As a scientist who studies squirrel behavior, one of the most common questions I am asked is: "How do I get them out of my yard?"

It's not as easy being a squirrel as you might think. They live a [relatively solitary life](#) guarding hard-won food stores to survive the tough winters

here in Canada. The behavior that my students and I are most interested in is how these squirrels use sounds, or what we refer to as [vocal communication](#), to help them make it through this tough life.

## **Solitary creatures**

The North American [red squirrel](#) lives a somewhat solitary life. They spend most of their days in a 50–100 meter territory foraging for pine cones and other food sources like berries and mushrooms.

Individuals spend time gathering cones throughout the summer and fall months, storing them in a central location called a midden. They can be rather protective of these middens, as squirrels are known to [steal a great deal from each other](#). In fact, a squirrel can steal up to 90 percent of its stores from neighboring squirrels.

These little thieves run back and forth moving and stealing cones to survive the tough Canadian winters. While they are stealing and storing, [squirrels often produce a loud call](#), termed a rattle. I am keenly interested in this call—my students and I watch and record squirrels to understand what these rattles might be communicating.

Historically it was assumed that this rattle call was produced to make sure that squirrels knew to stay out of each other's territories—in a sense, a warning that if you enter you may encounter some aggression from the squirrel that lives there. My research has been exploring [a slightly different view of this call](#).

## **Neighbors and strangers**

It is possible that the call still warns other squirrels to stay out, but its [primary function is to identify the caller to all those who are listening](#). As a squirrel moves through its own territory, and the territories of its

neighbors, they produce intermittent rattle calls. These calls are [an announcement of who and where that squirrel is](#). Listeners then know where their various neighbors are throughout the day. This knowledge can help mitigate costly aggressive interactions, chases and fights.

In addition, by communicating who is calling, the rattle can signal to listeners who is more likely to steal from you and [thus a more threatening neighbor](#). Some neighbors may be more likely to steal from you than others.

In [behavioral ecology](#), this is referred to as [the "dear enemy" effect](#), and supposes that in maintaining a territory it is useful to know the relative threat posed by your neighbors versus the threat posed by strangers. In most cases, a known neighbor is far less of a threat than a stranger.

With red squirrels, it has been shown that [different neighbors do have different levels of threat](#). As a result, knowing who your neighbor is by their rattle call reveals the relative threat they represent and therefore the necessary response.



Credit: AI-generated image ([disclaimer](#))

## Social calls

Self-announcement or self-identification is a common vocal behavior across many different species. Several marine mammal species, [such as dolphins and seals](#), also produce calls that contain information about who is calling. They are used to identify social companions and offspring.

Several species of primates also have calls that contain information about who is calling. Again, these are often used in social interactions to help mitigate aggression during foraging—[baboons](#) and [capuchin monkeys](#), for example. So it's not unusual that a species like the red squirrel would also have information about who is calling to help them with difficult territory interactions.

My students and I have found that squirrels produce these calls throughout their territory as well as in the territory of close neighbors. By conducting experiments on when and where the squirrels produce the rattle call, we hope to show that the occurrence of this call is about announcing who and where you are, and not strictly about getting others out of your territory.

This article is republished from [The Conversation](#) under a Creative Commons license. Read the [original article](#).

Provided by The Conversation

Citation: Allow me to introduce myself: Squirrels use rattle calls to identify themselves (2022, April 12) retrieved 3 May 2024 from <https://phys.org/news/2022-04-squirrels-rattle.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.