

# Norwegian lemmings dress loudly and scream even louder to survive

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The contrasting black, white and yellow coloration of the Norwegian lemming is unique among small rodents. Credit: Jon & Ostrooke;steng Hov, 2013.

The conspicuous, bold colors of the Norwegian lemming's fur and its loud barks serve as warnings to predators that it is not a creature to be messed with. This ferocity makes it unique among small rodents. Research on the matter by Malte Andersson at the University of

Göteborg in Sweden appears in Springer's journal *Behavioral Ecology and Sociobiology*.

The Norwegian lemming (*Lemmus lemmus*) is endemic to northern Finland, Norway, Sweden and the Kola peninsula in Russia. It sports a red-brown back, yellow flanks, white breast, chin and cheeks and a large black patch on its head, neck and shoulders. Most smaller rodents rarely aggressively protect themselves from [predators](#). Norwegian [lemmings](#), however, think nothing of fighting back the aerial attacks of predators such as the long-tailed skua with loud screams, lunges and bites. As a result, this lemming tends to catch the eye (and ear) much more than other members of its subfamily, which also includes voles and muskrats.

Through five field tests, Andersson noted that the Norwegian lemming's remarkable traits can be ascribed to aposematism: the use of warning colors and other methods to signal to predators that the potential prey has some form of defense, for example being toxic. Aposematism is unusual in herbivorous mammals, and is more common among insects, snakes and frogs.

In one of the experiments, eighteen observers found it easier to spot Norwegian lemmings in their [natural habitat](#) than their main rodent neighbor, the grey-sided vole. In another test, Andersson noted that brown lemmings only gave anti-predatory warning calls when a human (seen as a potential predator) was near in one out of 39 instances. Norwegian lemmings, on the other hand, did so in 36 of the 110 cases. Most adult and small juvenile Norwegian lemmings called out when Andersson came up to within five meters of them. When he was at least 10 meters away, the animals froze or fled silently to shelter, relying on their ability to hide unobserved in their natural habitat.

The calls and contrasting yellow, white and black colors of a Norwegian

lemming make it immediately distinguishable from other rodents living nearby which are brown and grey and flee silently away without defending themselves. Black and white or yellow is a classic warning coloration, which some birds instinctively know to avoid. Andersson explains that such calls and coloration are often useful at close range, where a lemming is likely to be discovered even if silent. They signal to a predator that the rodent will put up a fight if attacked.

"The Norwegian lemming combines acoustics with visual conspicuousness, probably to reduce its risk of becoming prey," says Andersson, who believes that such aposematism could help explain why the long-distance movements of Norwegian lemmings are so conspicuous.

**More information:** *Behavioral Ecology and Sociobiology*. [DOI: 10.1007/s00265-014-1868-7](https://doi.org/10.1007/s00265-014-1868-7)

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