
Why do these birds throw themselves off cliffs?

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The Arctic murre has a curious habit of flinging themselves out of the nest before it is old enough to fly. Now scientists know why.

When young murrelets grow to about one quarter of the size of an adult, they suddenly throw themselves off the towering cliffs that they call home. They plunge headfirst, hundreds of metres towards the ocean in what at first glance appears to be a suicide attempt.

Only, it is not. New research suggests that it is in fact a sensible and spectacular survival strategy.

Murrelets wings are adapted for diving and they are poor fliers, so they need to limit the amount of energy used when searching for food for their young.

Instead of flying between the sea and their nest high up on the sea cliffs, they take their young with them to sea, so that the young murrelets are always alongside their dads.

“We have long wondered about this special behaviour. At first glance, it doesn’t look like it’s an evolutionary advantage to let the fragile young birds throw themselves from a height, down to the sea among the rocks and the waves. But our study helps explain this,” says Morten Frederiksen, from the Department of Bioscience at Aarhus University, Denmark.

The study is published in the scientific journal, [The American Naturalist](#) [5].

New insights into a previously unknown activity of murrelets

The new study casts light on a part of the murrelets’ life that scientists have known relatively little about until now, says Tone Kristin Reierson, who studies bird behaviour at the Norwegian Institute for Nature Research (NINA). Reierson was not involved in the new study.

“We know very little about what happens from when they leave the nest to when they come back to the breeding ground, three or four years later. The reason is that it’s difficult to study the birds when they live their lives out at sea,” says Reierson.

“The males and young birds are especially vulnerable in this period where they sometimes migrate through oil drilling and shipping areas,” she says.

What happens to them in that period can influence the entire murre population. So the new study provides important insights into this crucial period, says Reierson.

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A unique bird

Most other birds use one of two strategies: either young birds stay in the nest until they are fully grown and can fly, or they follow their mothers, like hens and ducks.

The murre's trick of leaping out of the nest, often bumping against the steep cliffs as they fall to the water below, is totally unique.

"It's really unusual behaviour. The young cannot cope on their own. They cannot fly, they cannot find food themselves, and predators such as gulls and foxes view them as a delicious meal. Why don't they just stay put in relative safety on the cliffs? This is the question that we've long asked ourselves," says Frederiksen.

Read More: [Scientists solve old mysteries of bird migration routes](#)[7]

They save energy by feeding young at sea

To answer this question Frederiksen and his colleagues equipped 14 adult murre with small data loggers on, so they could see how the birds behaved before and after the young threw themselves from the nest.

The small data loggers collected data such as air pressure and temperature, and the bird's location.

This allowed the scientists to see when the birds dived into the sea to feed, and where they swam to.

They saw that the males dived much more often after the young birds had left the nest.

"When the young first leave the nest, it's up to the males to feed them while the females remain at the colony to mate with other males and take care of the nest. When the young birds end up in the feeding ground, it means that they no longer have to fly back to the colony to feed their young, and they can therefore collect more food. Moreover, murre are not very good flyers. We scientists have a joke that they fly marginally better than penguins, so it uses a lot of energy to bring food back up to the nest on the cliffs," says Frederiksen.

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Males need to be with their young

In comparison with the females' fishing grounds, the males often feed in areas that are relatively poor in the types of crustaceans and small fish that they usually catch.

This is because the males stay close to the young, and are therefore limited as to where they can fish. The females meanwhile, are free to fish wherever they like.

But even so, the males were able to feed their chicks twice as often at sea than both parents were able to do by flying back and forth between the colony and the sea.

"In this way it makes sense that the young birds leave the nest, despite the risks. We can also see that apart from during the actual jump, few murre chicks die in the period after leaving the nest," says Frederiksen.

During this period the male birds moult their flight feathers, which prevents them from flying away and forcing them to stay with their chicks.

Read More: [Climate and intensive farming push European birds into decline](#)[9]

Possible explanation of declining murre populations

There millions of murre around the world, but their populations are in decline.

The new insights into their behaviour could help to explain this trend. So, Frederiksen and his colleagues have launched a new research project to study the murre's behaviour during the rest of the year.

"It could be that they have problems with finding food or something similar. This is what we'll investigate now," says Frederiksen.

[Read more in the Danish version of this article on videnskab.dk](#) [10]

 [A male murre and his chick consider their giant leap into the abyss, Saunders Island in Northeast Greenland. \(Photo: Knud Falk\)](#) [11]

 [Scientists have long wondered why young murre throw themselves out of their nest before they can even fly or fend for themselves. \(Photo: Shutterstock\)](#) [12]

 [A male murre keeps his chick close by. The young swim and dive into the sea, but are not yet able to catch their own food. \(Photo: Lars Maltha Rasmussen\)](#) [13]

 [The next step for scientists is to study murre's behaviour during the rest of the year, to see why populations are shrinking. \(Photo: Shutterstock\)](#) [14]

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Fact box

Murre birds

Murre are a species of **large auk** and weigh around one kilogram.

They live in the northern hemisphere where prefer to nest on the sides of **steep cliffs**.

Murre can dive up to **200 metres** depth in the ocean to hunt for food.

Females lay just **one egg** during the mating season.

The males take care of the chick when they leave the nest.

Females take care of the nest when their young leave.

The young birds have a thick layer of feathers and soft down on their stomachs, which cushions their fall from the cliffs to the sea.

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`<iframe width="620" height="349" src="https://www.youtube.com/embed/G4kqIXS1ruw" frameborder="0" allowfullscreen></iframe> <p><i><small>See the murre free-falling from a 120 metre high cliff. (Video: BBC Scotland / YouTube)</small></i></p>`

[Kristian Sjøgren](#) [21]

Catherine Jex

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