

Surprising behavior in one of the least studied mammals in the world

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A Baird's beaked whale off the Commander Islands. Two teeth can be seen in the lower jaw. The body is covered by scars from fights with other beaked whales. Credit: Olga Filatova, University of Southern Denmark.

Some animals live in such remote and inaccessible regions of the globe

that it is nearly impossible to study them in their natural habitats. Beaked whales, of which 24 species have been found so far, are among them: They live far from land and in deep oceanic waters, where they search for food at depths of 500 meters and more.

The record holder for the deepest dive by a mammal is a Cuvier's beaked whale, which in 2014 was measured to dive at least 2992 meters. A beaked whale also holds the mammalian record for the longest dive; 222 minutes.

Now, the world gets a new and surprising insight into the world of distant beaked whales through a scientific study of a population of Baird's beaked whales. The population has unexpectedly been found near the coast and in shallower waters than previously observed.

The study is led by whale biologists Olga Filatova and Ivan Fedutin from the University of Southern Denmark/Fjord&Bælt, and it is [published in the journal *Animal Behaviour*](#).

Filatova and Fedutin have many years of whale studies in the northern Pacific behind them, and it was during an expedition to the Commander Islands in 2008 that they first saw a group of Baird's beaked whales near the coast.

"We were there to look for [killer whales](#) and humpback whales, so we just noted that we had seen a group of Baird's beaked whales and didn't do much about it. But we also saw them in the following years, and after five years, we suspected that it was a stable community frequently visiting the same area."

"We saw them every year until 2020 when COVID-19 prevented us from going back to the Commander Islands," explains Olga Filatova, a whale expert and postdoc at the Department of Biology and SDU

Climate Cluster, University of Southern Denmark.



Baird's beaked whale, The Commander Islands. Credit: Olga Filatova, University of Southern Denmark

The studied population of Baird's beaked whales came close to the coast—within four km of land, and they were observed in shallow water, less than 300 meters.

"It is uncharacteristic for this species," says Olga Filatova, who also points out that the population likely has adapted to this particular habitat and thus deviates from the established perception that all beaked whales roam far out at sea and in deep waters.

"It means that you cannot expect all individuals within a specific species to behave the same way. This makes it difficult to plan species protection—in this case, for example, you cannot plan based on the assumption that beaked whales only live far out in the deep sea. We have shown that they can also live in shallow and coastal waters. There may be other different habitats that we are not aware of yet," says Olga Filatova.

There are many examples of individuals from the same whale species not behaving the same. In the whale world, it is common to find groups of the same species living in different places, eating different prey, communicating differently, and not liking to mingle with fellow species in other groups.

Some killer whale groups only hunt marine mammals like seals and porpoises, others only herring. Some [humpback whales](#) migrate between the tropics and the Arctic; others are residents in certain areas. Some sperm whale groups develop their own dialects for internal communication and do not like to communicate with others outside the group.

According to Olga Filatova, social learning is at play when groups develop preferences for, for example, habitats and prey.

There are many forms of [social learning](#) in the animal world. Imitation is the most complex form; the animal sees what others do and understands the motivation and reasoning behind it. Then there is "local enhancement," where an animal sees another animal heading to a specific place, follows, and learns that the place has value. This has been observed in many animals, including fish.



Baird's beaked whales off The Commander Islands. Credit: Olga Filatova, University of Southern Denmark

Olga Filatova believes that the population of Baird's beaked whales at the Commander Islands learns through "local enhancement." They see that some peers go to the shallow water near the coast, follow, and discover that it is a good place, probably because there are many fish.

"It becomes a cultural tradition, and it is the first time a cultural tradition has been observed among beaked whales," she says.

Other examples of cultural traditions in whales include when they develop specific hunting traditions: some slap their tails to stun fish, some generate waves to wash seals off ice floes, and some chase fish

onto the beach.

The researchers observed a total of 186 individuals of the Baird's beaked whale species at the Commander Islands from 2008 to 2019. 107 were only observed once and thus assessed to be transient whales. 79 individuals were spotted for more than one year and were thus assessed as residents.

61 of the transient whales were seen interacting with the residents, and seven of them were seen in shallow water.

"The transients are not as familiar with local conditions as the residents, and therefore, they usually seek food at the depths that are normal for their species. But we actually observed some transients in the shallow area. These were individuals who had some form of social contact with the residents. It must be in that contact that they learned about the shallow water and its advantages," says Olga Filatova.

It is unclear how many Baird's [beaked whales](#) exist in the world.

More information: O.A. Filatova et al, Unusual use of shallow habitats may be evidence of a cultural tradition in Baird's beaked whales, *Animal Behaviour* (2024). [DOI: 10.1016/j.anbehav.2023.12.021](https://doi.org/10.1016/j.anbehav.2023.12.021)

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