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# Does the “medical” smell of gray whales persist from season to season in the Senyavin Strait



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## Area of observation



Gray whales feed mainly on benthic organisms, but geographical differences in their diet are poorly studied. Some eastern gray whales that come to feed off the coast of Chukotka have an unusual medical odour, which may be due to their diet.

## The mystery of the Chukotka stinky gray whales

The most probable suspect is 2,6-dibromophenol with strong iodoformic odour, perfectly matching that of the “stinky” whales. Quantitative results demonstrated its levels were up to 500-fold higher in the “stinky” whales tissues. The source of 2,6-dibromophenol is likely polychaetes, producing 2,6-dibromophenol and colonising near shore waters where whales feed.

One of the objectives of whale research in the Senyavin Strait was to determine how long the acquired smell lasts. In order to do this, we attempted to detect the smell of as many whales as possible, taking their photographs for further identification.

## Goals and objectives:

One of the objectives of research in the Senyavin Strait was to determine how long the acquired smell lasts.

In order to do this, we attempted to detect the smell as many whale blows as possible.

## Observational results

Smell detection - 59 times



9  
stinky



24  
non-stinky



During the observation period of one month, we managed to smell an exhalation odour of the whales 59 times. We were able to determine at least 9 of the so-called stinky whales, and at least 24 non-stinky whales.

## Methods:

Smell detection

Photo  
identification



Analysing results and comparing them with 2021 year data, we determined four categories:

1. Whales who had no medical smell neither last nor this year
2. Whales whose smell we did not determine in the past, but in 2022 they had a medical smell
3. Two whales that had a medical smell in 2021, but lost it in 2022
4. One whale who had a medical smell both in 2021 and 2022



## Conclusions

This suggests, at least, that the whales are able to lose the smell, so the presence of this smell is not a genetic feature of some whales and may be caused by other factors, such as diet. Considering that some of the whales in Senyavin Strait displayed a tendency to feed in one certain selected locality throughout the period of observation, it is quite possible that the presence of a medicinal odour depends on an individual whale's dietary preferences.