

Spiny lobster noises may be heard up to 3 kilometers away

May 21 2020



Spiny lobster (*Palinurus elephas*). Credit: Georges Jansoone/ Wikimedia /CC BY 3.0

Noises produced by European spiny lobsters—known as antennal rasps—may be detectable up to 3 kilometers underwater, according to a study in *Scientific Reports*. The sound, created when lobsters rub an extension of their antenna against a 'file' below their eyes, may be used for communication or to deter predators. Its detection could help conservation efforts, the study suggests.

Youenn Jézéquel and colleagues recorded 1,560 antennal rasps produced by 24 spiny lobsters in the Bay of Saint Anne du Portzic, France. The sounds were recorded using eight underwater microphones placed between 0.5 and 100 m away from the lobsters. The authors found that only large individuals could be recorded at 100m distance, whereas intermediate, small and very small individuals could not be recorded at distances above 50, 20 and 10 m, respectively. Based on these measurements, the expected loss of sound intensity over distance and the levels of background noise present during the experiment, the authors estimated that rasps produced by large lobsters may be detectable up to 400m away. The authors speculate that in conditions of low background noise, rasps produced by the largest individuals (13.5 cm long) could be detected up to 3 kilometers away.

The findings demonstrate that antennal rasps could be used to detect and survey populations of spiny lobsters from kilometres away. As the [species](#) is scarce in European waters due to decades of overfishing, non-invasive tools, such as [acoustic monitoring](#), are needed to better manage this [vulnerable species](#), according to the authors.

More information: Spiny lobster sounds can be detectable over kilometres underwater, *Scientific Reports* (2020). [DOI: 10.1038/s41598-020-64830-7](#) , www.nature.com/articles/s41598-020-64830-7

Provided by Nature Publishing Group

Citation: Spiny lobster noises may be heard up to 3 kilometers away (2020, May 21) retrieved 5 February 2023 from <https://phys.org/news/2020-05-spiny-lobster-noises-heard-kilometers.html>

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