

Pilot whale study reveals copycat calls to outsmart predators

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Australian Long-Finned Pilot Whales. Credit: Rebecca Wellard

New Curtin University research has found southern Australian long-finned pilot whales are able to mimic the calls of its natural predator and food rival—the killer whale, as a possible ploy to outsmart it.

The study is the first published research analysing the calls of long-finned pilot whales in the Southern Hemisphere, which were recorded in

the Great Australian Bight, off WA and SA, between 2013 and 2017.

The research, published in *Scientific Reports*, also found evidence of 'duetting,' which is common in birds and primates but very rarely reported in aquatic mammals, and which suggests the whale's sophisticated acoustic communication system is more complex than previously thought.

Lead author Rachael Courts from Curtin's Centre for Marine Science and Technology said the study of long-finned pilot whales off southern Australia showed what appeared to be mimicry of a call of the Australian killer whale.

"This mimicry may be a clever strategy employed by the whales in order to disguise themselves from predators including killer whales. It may also allow them to scavenge food remnants from killer whales, undetected," Ms Courts said.

"Duetting refers to coordinated and patterned singing by two animals and is related to social bonding and coordination of behaviour.

"Some long-finned pilot whale calls were found to be remarkably similar to those of the same species in the Northern Hemisphere, which is surprising as non-equatorial aquatic mammals such as these are not expected to cross the equator for large-scale migrations, meaning the last contact the two hemispheres' populations could have had would have been more than 10,000 years ago.

"Our findings therefore raise the question of how far these two populations' home ranges really extend and now that we have some of their call repertoire documented, we can monitor [home ranges](#) with remote underwater sound recorders such as those used by many countries, including Australia."

Professor Christine Erbe, Director of Curtin's Centre for Marine Science and Technology, said the research was not only the first to be published on the calls of long-finned pilot whales off southern Australia but also the first in the entire Southern Hemisphere. Previous studies have only focussed on waters off the US, Canada and Europe.

"Our research discovered three unique vocalisations recorded from southern Australian long-finned pilot whales, which have not been reported for the species," Professor Erbe said.

"These were very complex multi-component calls much like [killer whale](#) calls, but given this is the first [southern hemisphere](#) study, we don't know how common the calls might be in other Southern Hemisphere pilot whales. This aspect could be the focus of future research."

The paper is titled "Australian long-finned [pilot whales](#) (*Globicephala melas*) emit stereotypical, variable, biphonic, multi-component, and sequenced vocalisations, similar to those recorded in the [northern hemisphere](#)."

More information: Rachael Courts et al. Australian long-finned pilot whales (*Globicephala melas*) emit stereotypical, variable, biphonic, multi-component, and sequenced vocalisations, similar to those recorded in the northern hemisphere, *Scientific Reports* (2020). [DOI: 10.1038/s41598-020-74111-y](#)

Provided by Curtin University

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