

Whispering southern right whale mums and calves seek refuge in surf

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A female North Atlantic right whale with her calf. Credit: Public Domain

Most mammalian new mums are fiercely protective of their precious offspring; even 5-8 m long southern right whale calves are vulnerable to attack by voracious killer whales. Mia Nielsen from Aarhus University, Denmark, explains that whale mothers and calves often try to hide from predators by gravitating to cloudy water. But the loss of visual contact

could force mothers and their young to call to each other more, increasing the risk of attracting the wrong attention. Knowing that humpback whale mothers resort to whispering to their young to protect them from harm, Nielsen and her colleagues, Lars Bejder from the University of Hawaii at Manoa and Peter Madsen, also from Aarhus University, decided to listen in on the conversations between southern right whale (*Eubalaena australis*) mothers and their calves, to find out how they go unnoticed. The team publishes its discovery that the mothers and their calves shelter in the noisy surf, stay in close proximity and effectively whisper—calling softly less than once per dive—to avoid attracting any unwanted attention in *Journal of Experimental Biology*.

'One of the initial challenges was getting to know the [whales](#) in our study area', says Nielsen, who travelled to Flinders Bay—off the southern tip of Western Australia where the whales breed—with Madsen, Bejder and Fredrik Christiansen to track the graceful creatures. 'The number of whales that frequent the bay is low', says Nielsen, who admits that she was surprised when they eventually located the females with their [calves](#) in the surf zone close to shore; which puzzled the researchers. Why were the [mothers](#) taking refuge in the most turbulent water? Were the crashing waves providing acoustic cover? And would the mothers and their offspring call to each other more frequently in the stirred-up water to keep in touch?

Stealthily approaching the whales while they rested at the surface, the team attached sound recording tags to the youngsters and their mums in the hope of recording the pair's interactions. 'The tags stayed on the mothers for about 7 hours on average', says Nielsen; however, the calves' tags detached within 40 mins. 'Southern right whales are very physical with each other, the calves spend a lot of time rubbing against the mother and rolling over her back, tail and rostrum', says Nielsen, which explained why the tags wouldn't stay in place. However, after successfully tagging nine whale mums the team recorded almost 63 h of

conversation as the mothers and calves sheltered in the surf.

Back in Denmark, Nielsen, Madsen and Simone Videsen scrutinised the recordings. 'It was difficult to assign the calls to either the calf or the mom, because they are so close to each other', says Nielsen; instead she assigned the calls to the calf-mother group. Although it was clear that the animals were producing two types of call—a grunt and a mooing sound—the team was surprised when they realised that instead of communicating continually the mother and calf called less than once per dive. And when the researchers analysed the sound volume of the animals' calls, they were surprised by how quiet the moos and grunts were. The pounding waves drowned out the calls within a few hundred metres, making it difficult for killer whales to eavesdrop on the soft conversations.

Nielsen suspects that it is unnecessary for southern right whale calves and their mothers to raise their voices in their cloudy coastal breeding grounds as the calves remain in close physical proximity to their mothers, swimming in mum's slipstream. And Nielsen and her colleagues suspect that the whales' unconventional choice of location in the crashing surf could conceal and protect them from unwanted attention.

More information: Nielsen, M. L. K., Bejder, L., Videsen, S. K. A., Christiansen, F. and Madsen, P. T. (2019). Acoustic crypsis in southern right whale mother-calf pairs: infrequent, low-output calls to avoid predation? *J. Exp. Biol.* 222, jeb190728. [DOI: 10.1242/jeb.190728](https://doi.org/10.1242/jeb.190728)

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