

# Seal pups listen for long distance calls to locate their mothers

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Male Antarctic fur seal is calling. Credit: Pierre Jouventin

Antarctic fur seal pups identify the mother's vocal pitch at longer distance and use other components of the vocal signature at closer range to identify their mother in densely populated breeding colonies,

according to a study published September 2, 2015 in the open-access journal *PLOS ONE* by Thierry Aubin from University of Paris-Sud and colleagues.

Antarctic fur seals breed in dense colonies on shore, and during the 4-month lactation period, mothers alternate foraging trips at sea with suckling period ashore. Each time the mothers return to the colony, they and their [pups](#) initially use vocalizations to find each other among several hundred other seals, and then use their sense of smell to confirm. As recognizing vocal calls is essential to their survival, the authors of this study investigated the components of the individual vocal signature detected by pups to identify their mothers. They carried out playback experiments on about 30 wild pups using synthetic signals and playbacks at different distances at the Kerguelen Archipelago in the southern Indian Ocean.

The authors found that the pups use both the sound's amplitude and frequency modulations to identify their mother's voice. Playbacks at different distances showed that frequency modulations propagated reliably up to 64 meters, whereas amplitude modulations were highly degraded for distances over 8 meters. The authors suggest these results indicate a two-step identification process: at long range, pups identified first the [frequency modulation](#) pattern of their mother's calls, and then other components of the vocal signature were identified at closer range. The individual vocal recognition system developed by Antarctic fur seals is likely adapted to face the importance of finding kin in a crowd.

**More information:** Aubin T, Jouventin P, Charrier I (2015) Mother Vocal Recognition in Antarctic Fur Seal *Arctocephalus gazella* Pups: A Two-Step Process. *PLoS ONE* 10(9): e0134513. [DOI: 10.1371/journal.pone.0134513](#)

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