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**Biosonar performance of a false killer whale (*Pseudorca*
crassidens) improved with practice**

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Cylinder wall thickness discrimination tasks have been used to assess the limits of dolphin biosonar. An attempt to replicate the benchmark data from a bottlenose dolphin (*Tursiops truncatus*) resulted in a surprising order of magnitude better performance by a false killer whale. The improvement came over multiple testing episodes, which suggests that initial limits to discrimination were overcome by learning; either through better understanding of the reinforcement contingencies, attention to novel sources of information within the returning echoes, or both. These results offer important insights into methodological considerations for testing animal psychophysical performance, especially for sensory performances like echolocation in which the subject exercises active control over the sensory input. The ability to improve sensory performance with practice also offers insights into the way the echo information is processed into an internal representation of external physical reality by the central nervous system, a process that is very likely open to improvement through experience, or learning, throughout the individual's life.