

Dolphins can remain alert for up to 15 days at a time with no sign of fatigue

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The female dolphin SAY who performed a continuous echolocation tasks for 15 days. Credit: Credit: Brian Branstetter

Dolphins sleep with only one half of their brains at a time, and according to new research published Oct. 17 in the open access journal *PLOS ONE*, this trait allows them to stay constantly alert for at least 15 days in a row. Brian Branstetter from the National Marine Mammal Foundation and colleagues found that dolphins can use echolocation with near-perfect accuracy continuously for up to 15 days, identifying targets and monitoring their environment.

The researchers studied 2 dolphins, one male and one female, and found that they were capable of this task with no signs of fatigue for 5 days. The female dolphin performed additional tasks for a 15-day period. How much longer they could have continued was not studied.

Sleeping with only one half of the brain at a time, or unihemispheric sleep, was believed to have evolved in dolphins to enable them to breathe at the surface of water even when half-asleep. This new research suggests that the need to remain vigilant may also have played a role in the evolution of this sleeping behavior.

"These majestic beasts are true unwavering sentinels of the sea. The demands of [ocean life](#) on air breathing dolphins have led to incredible capabilities, one of which is the ability to continuously, perhaps indefinitely, maintain vigilant behavior through echolocation" says Branstetter.

More information: Branstetter BK, Finneran JJ, Fletcher EA, Weisman BC, Ridgway SH (2012) Dolphins Can Maintain Vigilant Behavior through Echolocation for 15 Days without Interruption or Cognitive Impairment. PLoS ONE 7(10): e47478.
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