

Dolphins Experience Delight, But Do They Actually Giggle?

Mike Lee (<https://www.flickr.com/photos/pochacco20/268131917/sizes/m/>)



By [Ben Guarino](#)

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According to some cetacean experts, pleased dolphins vocalize their delight (<https://www.thedodo.com/have-you-ever-heard-a-dolphin--674044916.html>), as if they were little kids giggling on a playground. But not all marine biologists agree.

Based on a study by scientists at the National Marine Mammal Foundation (NMMF), dolphins emit what is called a “victory squeal,” as The Dodo reported recently.

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The key finding of the recent NMMF study hinges on the fact that there was a pause between when dolphins saw or heard a reward (<http://jeb.biologists.org/content/217/16/2910.abstract?sid=2d038c34-565c-4854-87e2-74fe8e2efba0>) and when they let loose a buzz. Sam Ridgway, the president of the NMMF (<http://nmmf.org/about/board-of-directors/>), writes in an email to The Dodo that “this delay was consistent with a response after dopamine release.” Because dopamine is linked to feeling pleasure in humans — as well as other reward responses in mammals — Ridgway believes this sound, also known as a “terminal buzz,” is a squawk of delight (<https://www.thedodo.com/have-you-ever-heard-a-dolphin--674044916.html>).

To dolphins, “the terminal buzz is not only sonar but also it has an emotional content linked to food and pleasure,” Ridgway says.

But Lori Marino, a neuroscientist and the founder of the Kimmela Center for Animal Advocacy (<http://www.nonhumanrightsproject.org/lori-marino-ph-d-2/>), had this to say:

 **Lori Marino** · ★ Top Commenter · Executive Director at The Kimmela Center for Animal Advocacy, Inc.
 These vocalizations may or may not represent a positive emotion but the authors' conclusions stretch way beyond the data. The strength of the connection they make with dopamine - which was never measured - is tenuous at best. They are relying on studies done by crackpot John Lilly in 1958!
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The connection between dopamine and a pleased squeal, Marino tells The Dodo, is “dubious at best” and a case of “going way beyond the data.” The flaw, she says, is that the researchers never measured dolphin dopamine levels — and, considering the risk to the cetaceans involved, it would be unethical to do so.

“It’s a bit of a stretch to say [the squeal] is emotional (<http://newswatch.nationalgeographic.com/2014/08/13/belugas-dolphins-squealing-happiness-animals-science/>),” Maddalena Bearzi, a marine mammal expert at Ocean Conservation Society (<http://www.oceanconservation.org/>) not involved with the study, tells National Geographic.

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Though Ridgway stands by his conclusion, he agrees that measuring the dolphins' dopamine would be unwarranted. "Why should we have to repeat this invasive work of the '50s and '60s to move forward with understanding animal cognition and emotion?" he asks The Dodo in an email.

Because Ridgway and his colleagues work with trained animals (the NMMF is affiliated with the U.S. Navy), Marino says these researchers have a vested interest in showing that this sound is "a positive emotion rather than neutral or negative." She doesn't doubt that dolphins and whales are capable of producing feeding buzzes, but she questions whether or not this indicates pleasure.

Although the dolphins have been trained to respond to a reward, Ridgway says in a statement that [his research took place in San Diego Bay and the open ocean \(http://phys.org/news/2014-08-dolphins-whales-pleasure.html\)](http://phys.org/news/2014-08-dolphins-whales-pleasure.html). "Much of my work has been with trained animals that swim with us miles in the open sea, where they could easily swim away," he writes. "To me in their approach, their posture, their vocal behavior and their willingness to work, to dive to great depth and return to us far away and unseen on the ocean surface, suggests pleasure."

But on Ridgway's last point — that dolphins are intelligent creatures capable of experiencing pleasure — all the scientists seem to agree.

"Based on 25 years in the field," Bearzi tells National Geographic, "[I do believe these animals are emotional creatures \(http://newswatch.nationalgeographic.com/2014/08/13/belugas-dolphins-squealing-happiness-animals-science/\)](http://newswatch.nationalgeographic.com/2014/08/13/belugas-dolphins-squealing-happiness-animals-science/)."

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