Blue whales pirouette for food

The juggernauts of the sea are nimble giants at feeding time, video footage reveals.

Zoe Corbyn

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Whale rolls in pursuit of food

Source: National Geographic's Crittercam.

The world's largest animal can be as agile as a ballet dancer when it is hungry. Video cameras and motion sensors strapped to 22 blue whales (*Balaenoptera musculus*) reveal that they sometimes incorporate underwater pirouettes — 360º body rolls — as they lunge at patches of krill from below.

The 30-second manoeuvre — two half turns, performed either side of engulfing a meal — enables the whales to position their jaws underneath their prey and to take the biggest mouthful possible before the krill scatter, says Jeremy Goldbogen, a zoologist at the Cascadia Research Collective in Washington, who led the work. The findings are published today in *Biology Letters*[1].

“It is a sort of ambush strategy,” Goldbogen says of the whales' acrobatics.

Other animals have previously been observed to roll 360º. Spinner dolphins, for example, revolve through the air and are thought to be shaking off the suckerfish pests that hang on their bodies[2], and alligators engage their prey in a fearsome 'death roll' — clasping their victims in their jaws while rolling rapidly to subdue and dismember them[3]. But the phenomenon has never been seen in such a large animal and is especially surprising given that the blue whale has relatively small flippers and tail fins. Related whales, including humpbacks, are known to roll as they feed but typically only by about 90º (refs 4, 5).

Biologist Frank Fish of West Chester University in Pennsylvania, who studies locomotion in aquatic mammals, says that the flipper movement in the video helps to explain how the spin is created. Turning with smaller flippers is possible, he says, because more of a blue whale's body mass is distributed “around its longitudinal axis”.

But only about 10% of the lunges involved a full roll, which Goldbogen says indicates that the tactic might be limited to when krill are in small, dense patches.

References

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