Whales stop by Gold Coast bay for day spa fix with full body scrubs

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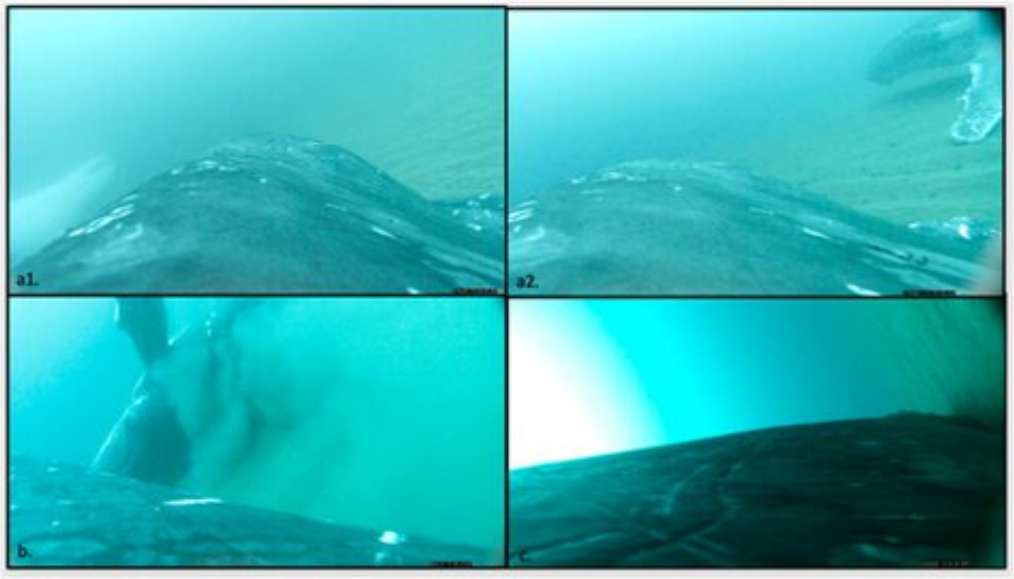

Bottom contact behaviour documented with CATS camera. Screen shots showing an accompanying whale on its back during sand rolling (a1) and an accompanying whale moving its pectoral fin over the substrate from tag a (a2). Sand rolling performed by an accompanying whale during deployment of tag (b) and the tagged individual using its pectoral fin before rolling on its back from tag (c). Credit: Olaf Meynecke

A new Griffith University study has found that humpback whales will use sandy, shallow bay areas to 'roll' around in sandy substrates to remove dead skin cells on their return journeys south to cooler waters.

Marine ecologist Dr. Olaf Meynecke, from the Griffith-led Whales and Climate Research Program and Coastal and Marine Research Centre, used suction cup tags to track southward migrating whales between August 2021 and October 2022.

The CATS tags are fitted with integrated high-definition video, magnesium release system, a VHF transmitter for retrieval, magnetometers, a hydrophone and light, pressure, temperature and GPS sensors.

Using data and footage collected from the tags, whales were observed performing full and side rolls in up to 49m water depth on the sea floor that was lined with fine sand or rubble.

"On all occasions of sand rolling, the whales were observed on video to be slowly moving forward with their head first into the sand followed by rolling to one side or a full roll," Dr. Meynecke said.

"During the different deployments, the sand rolling was observed in the context of socialising. The behaviour was either following courtship, competition or other forms of socialising.

"So we believe that the whales exfoliate using the sand to assist with moulting and removal of ectoparasites such as barnacle and specifically select areas suitable for this behaviour."

In tropical and subtropical waters, barnacles attach to the whales in their early life stages, and whales need to remove barnacles frequently to avoid excessive growth that leads to drag and energy loss.

"Humpback whales host diverse communities of skin bacteria that can pose a threat for open wounds if bacteria grow in large numbers," Dr. Meynecke said.

"Removing excess skin is likely a necessity to maintain a healthy bacterial skin community. Humpback whales can remove some barnacles and skin through surface activity such as breaches but not all."

Skin from the whales was observed to be falling off during the process of all identified rolls, and fish such as juvenile silver trevally were seen to be actively feeding from the whales' skin during this behaviour similar to cleaning stations are coral reefs.

The research Exfoliating Whales–Sandy Bottom Contact Behaviour of Humpback Whales has been published in *Marine Science and Engineering*.

More information: Jan-Olaf Meynecke et al, Exfoliating Whales–Sandy Bottom Contact Behaviour of Humpback Whales, *Journal of Marine Science and Engineering* (2023). DOI: 10.3390/jmse11030600

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