

'Speckles' the piebald dolphin makes a splash as Australian first

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Speckles - a Common bottlenose dolphin (*Tursiops truncatus*) showing patchy skin colouration and red skin pigmentation on top of the dorsal, photographed off Hervey Bay. Credit: Georgina Hume

University of the Sunshine Coast researchers believe they have recorded one of the world's most unusually colored dolphins for the first time in Australia. With its patchy black-and-white coloring, the dolphin is one of only six cases in the world where there is photographic evidence a

dolphin with the extremely rare skin condition piebaldism, and only the second to be documented in the southern hemisphere.

The dolphin immediately caught the attention of UniSC researchers after it leapt out of the water near their [research vessel](#) as they surveyed Hervey Bay as part of a four-year project investigating dolphin connectivity in South East Queensland.

"It's an exciting discovery, as to date, there are no documented sightings of any atypically colored dolphins in Australian waters. There have, however, been a few sightings of atypical whales. One of these is a well-known albino humpback whale called 'Migaloo,' first observed in Byron Bay in the early 1990s and whose all white status was confirmed from a sighting in Hervey Bay one year later," Dr. Alexis Levensgood said.

"Piebaldism is similar to albinism and leucism, where the animals typically have white skin, feathers or fur, whereas piebaldism is a partial-loss of pigmentation so the individuals show this patchy coloration."

The discovery was documented recently in the scientific journal [Aquatic Mammals](#).

'An unusual sight'

Lead author Georgina Hume, who is researching South East Queensland's dolphins as part of her UniSC doctoral studies, said as soon as they saw the adult bottlenose, nicknamed "Speckles," they knew they had found something special. "It was swimming with a group of five other dolphins about 16kms off Hervey Bay's Scarness Beach and we noticed it straight away as it had such strange coloration compared to the others."

"Speckles leapt out of the water three times in an upright, vertical

position, while the rest of the group traveled in a 'porpoising' movement," she said.

"This allowed us to get a very clear look at its underside which had many white areas, along with white stripes across its dorsal and lateral sides."

It also had a distinctly marked dorsal fin that had not previously been seen in the research team's photo-identification catalogue.

"The clear identification of near-symmetrical white patches and the overall 'healthy' appearance of Speckles helped eliminate the possibility that these patches are due to potential disease or stranding-related sunburn," Hume said.

Search for answers

The researchers set about finding what caused the strange skin discoloration, including searching for other documented cases worldwide.

The literature shows piebald occurrences in dolphins is rare, with only 24 reported individuals. Of these, there is photographic evidence for only six individual cases—in Mexico, the Black Sea, Brazil and the Strait of Gibraltar.

Apart from a healed shark bite on its right side, the researchers say Speckles was a healthy size, suggesting its skin condition has not hindered its survival to date.

First study of its kind

As the research team continues its quest to fill gaps on the ecology,

genetics, behavior and health of dolphins in South East Queensland, they hope to find Speckles again to better understand its role in the population.

Dr. Levensgood said further sightings with high-quality images coupled with genetic sampling of the dolphin—whose sex is still to be determined—would allow confirmation of the genetic mutation that has occurred to cause its atypical skin.

"We also recommend genetic sampling of both common bottlenose dolphins and Indo-Pacific bottlenose dolphins in and surrounding Hervey Bay, to assess the population genetics and relatedness of individuals that might be influencing atypical cetacean skin pigmentation," she said.

The researchers say their four-year study—spanning from Caloundra to Hervey Bay—is the first of its kind.

Hume said it was currently unknown how dolphin species in the South East Queensland region were connected, and if some populations were being subjected to higher threats than others, particularly those found outside the protected marine parks

"Research in South East Queensland has mainly been centered on Moreton Bay. The last study carried out in Hervey Bay was more than 15 years ago and it only focused on one species of dolphin. And prior to this, no one has studied the dolphins present on the Sunshine Coast—an area that links two Marine Parks but is currently unprotected," said Hume.

As well as determining what dolphin species are present, the study is investigating their distribution, how they socially interact and their genetic connectivity. Researchers are also studying shark bite scars on the marine mammals to gauge the threat of natural predators.

More information: Georgina V. Hume et al, First Record of a Piebald Bottlenose Dolphin (*Tursiops truncatus*) in Australian Waters, *Aquatic Mammals* (2024). [DOI: 10.1578/AM.50.1.2024.8](https://doi.org/10.1578/AM.50.1.2024.8)

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