

# Manta Mysteries to be Solved

Written by Kandy Curran, Saturday 28 November 2015



Manta rays are ideally suited for citizen science because they have distinct ventral markings and are curious, which makes them easily photographed in the water.

Image; *Amelia Armstrong*

- Kimberley citizen scientists to consider frolicking manta rays
- Joint research project to consider genetic exchange between different manta populations
- Manta ray photo opportunity best in April during feeding time off Broome

WHEN manta rays (Mobulidae) are sighted along Broome's beautiful coast, there's always great excitement and sharing of photos on social media. So a presentation by manta ray researchers visiting Broome in October, brought manta fans out in droves.

Whilst researchers Asia and Amelia Armstrong share the same surname, the audience quickly learned they are not sisters; however what they do share, is a passion for Project Manta and learning about manta rays.

Project Manta is a research project between Murdoch University and The University of Queensland designed to explore the movements and connectivity between populations of manta rays within Australian waters and beyond.

Asia's work on Project Manta focuses on the ray's feeding environment and prey availability—as well as seasonality in their reproduction.

Whereas for Amelia, her PhD study is on the genetic structure of manta populations around Australia and into Indonesia.



Scraping a mucous sample for genetic analysis: Credit: Amelia Armstrong

“I am using photo identification and trialling a new technique to reveal their genetics, which is simply scraping a small amount of mucous that covers the manta ray’s skin, to find out if there is genetic exchange between populations over large distances,” Amelia Armstrong says.

With reef manta rays (*manta alfredi*) found along the WA coast, Asia and Amelia are asking coastal communities to consider volunteering as citizen scientists with the project.

“Whilst we would like to deploy satellite tags on manta rays to improve our understanding of their movements, we require more information to know where best to target our research efforts,” Asia Armstrong says.

This information includes date, time, location, number, behaviour and photos of both the back and belly.

Manta rays are ideal subjects for a citizen science project because they have distinct ventral markings and are curious, which makes them easily photographed in the water and they are the largest ray species, measuring approximately 4.5m to 5m from wingtip to wingtip.



*Frolicking manta rays. Credit: Amelia Armstrong*

“When in the Broome area, they are most likely surface feeding on dense zooplankton. They can be seen at different times of year, but April seems to be the most common time for sightings in Broome,” Asia Armstrong says.

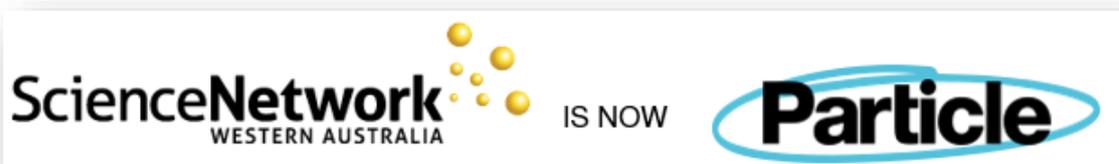
“They have modified fins or lobes at the front of the head, called cephalic lobes.

“These are movable appendages that they curl up like horns when cruising; unfurl and move when being cleaned by smaller cleaner fish; and form a funnel-like shape around their mouth when feeding.”

To contribute sightings and photos to Project Manta email [project.manta@uq.edu.au](mailto:project.manta@uq.edu.au)

Notes:

When sexually mature at 8 to 12 years of age, manta rays form complex mating trains with the female in the lead. The manta that can keep in sync with the female’s complex underwater manoeuvres is generally the male that gets to mate with her.



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