

Sabah-led research sheds light on rare eagle ray

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KOTA KINABALU: An international study, led by Universiti Malaysia Sabah (UMS), has used social media posts to discover important new information about an endangered species of eagle ray – a beautiful yet incredibly rare species.

The Endangered Marine Species Research Unit, headed by Dr Mabel Manjaji-Matsumoto, led the study, in collaboration with scientists from Large Marine Vertebrates Research Institute in the Philippines, and James Cook University, Australia.

The team searched Facebook, Instagram, Twitter and YouTube for photos and videos of ornate eagle rays posted by the general public, and analyzed each photo to identify individual rays using the unique patterns on the back of each ray – these are a ray's version of fingerprints or bar codes that identify specific individuals.

From the 53 reports of the rare species the team found online, 45 individuals were identified – including individuals in Palau, the Seychelles and South Africa, representing the first confirmed reports of the species in these countries.

The study also found that many of the sighting occurrences were in Marine Protected Areas (MPAs), highlighting the importance of these MPAs in shark and ray conservation.

Although there were no sightings of the ornate eagle ray documented on social media from Sabah, the species has historically been recorded in Sabah fisheries. Its current status in Sabah is unknown, although once occasionally landed in Sabah, no reports have been documented in the last 20 years.

The ornate eagle ray is a large and easily identifiable ray, and its distinct back pattern of stripes and reticulated spots make the species well suited for a citizen science-based study approach.



An ornate eagle ray, showing the distinct back pattern of stripes and reticulated spots. These beautiful, yet rare, rays can grow up to 20cm from wing tip. Photo by Jacinta Shackleton

said Gonzalo Araujo, Associate Research Fellow at UMS.

"Citizen science, where the general public contributes to data collection, is a powerful tool that can assist many projects," Araujo continued. "People's photos on social media platforms, such as Facebook, are proving incredibly useful for monitoring rare species, especially in remote places around the world where researchers may not necessarily be able to access. In Sabah, citizen science is already helping scientists understand the enigmatic whale shark or buding for example, providing evidence of how they move to and from neighbouring areas."

Citizen science has had an important role in scientific research in Sabah lately, most notably in late 2019 when a diver's video of a whale shark at Pulau

Sipadan was used to confirm the first documented movement of a whale shark between Philippines and Malaysia as the shark had previously been identified in south Cebu, Philippines.

"It is interesting that many of the reports of ornate eagle rays found on social media were within iconic Marine Protected Areas, such as Ningaloo Reef and the Great Barrier Reef in Australia, and Cagayancillo reef in the Philippines – just like the whale shark at Pulau Sipadan in 2019," said Gonzalo.

"The effectiveness of MPAs to conserve species like the ornate eagle ray, and other mobile species, is highly complex, yet it is encouraging that these species are present in these areas, and that citizen science can be a powerful tool to help monitor them."