



New Species of Spotted Eagle Ray Discovered

The discovery of more than one species of spotted eagle ray raises conservation concerns over their future.

A study recently published in the *Journal of Heredity* shows that the spotted eagle ray *Aetobatus narinari* is actually made up of at least two and possibly more species and subspecies. Currently, the ray is classified as a single species worldwide, and is subject to intense and unregulated fisheries, particularly in parts of Southeast Asia.

This discovery, made by a team of marine scientists led by Mahmood Shivji with the Save Our Seas Foundation Shark Center and National Coral Reef Institute at Nova Southeastern University in Florida, USA, has significant conservation implications for the survival of all the spotted eagle rays. Each newly discovered species and subspecies has a smaller distribution and population size compared to a single, globally distributed species, making them more vulnerable to pressures from fisheries.

Traditional assessments of species have been based on their physical appearance, but with technological advancements in the field of genetics, many marine organisms considered single species are often found to be more than one species. Conversely, sometimes, animals described as different species based on their appearance are actually found to be just one species based on their DNA. These discoveries are common for small species, such as small fish and invertebrates. It is, however, unusual to make such discoveries in large, charismatic and highly visible species such as the spotted eagle ray.

Results from the study point to an Indo-West Pacific origin for the spotted eagle ray, followed by a movement into the Atlantic and Eastern Pacific, probably via the southern tip of Africa. Over time they have formed highly separated lineages that do not mix and have evolved into different species.

In depth genetic analysis of specimens collected from four locations across the globe shows that the spotted eagle ray ranging through the Western and Central Pacific is genetically very distant from the species that ranges through the Central Atlantic and the Eastern Pacific. The latter species is further divided into two subspecies separated by the Isthmus of Panama.

In addition to providing taxonomic clarification and insight into evolutionary history, these findings have direct management implications. The spotted eagle ray is considered highly vulnerable to sustained fishing due to its low reproductive rate. Consequently, it is listed on the IUCN Red List of Threatened Species as "Vulnerable" in Southeast Asia and "Near Threatened" globally. Prof. Shivji stresses, "These listings are based on the designation of the ray as a single global species; in light of what we have discovered each of the more regionally distributed species may be far more threatened than previously thought. Clarifying uncertainties surrounding the number of species, and their exact distributions and population size is imperative for guiding conservation and management efforts."

For more information on the marine environment and new species' discoveries please visit www.saveourseas.com.

Media queries

For more info, including images, please contact:

Cheryl-Samantha Owen at the Save Our Seas Foundation

sam@saveourseas.com

+27(0) 797 179070

NOTES TO EDITORS

The Save Our Seas Foundation (SOSF) is a non-profit organisation, working internationally on a range of marine conservation projects and initiatives, including scientific research, direct conservation action and public education.

It aims to learn more about marine species, particularly sharks and rays, and their role in maintaining a healthy marine ecosystem. Through this knowledge it hopes to raise awareness of the state of our oceans, educate the public about saving our seas, (especially the consequences of removing sharks and rays from the world's oceans), support natural marine resource preservation and conserve the marine realm.

Please visit: www.saveourseas.com

The National Coral Reef Institute (NCRI) was established by USA Congressional mandate in 1998. NCRI's primary objective is the assessment, monitoring, and restoration of coral reefs through basic and applied research and through training and education. NCRI operates at the Nova Southeastern University Oceanographic Center in Florida, USA.

For more information please visit: <http://www.nova.edu/ncri/>

Mahmood Shivji is a Professor of Conservation Biology at Nova Southeastern University (NSU) where he directs the Save Our Seas Shark Center and Guy Harvey Research Institute, and is Principal Researcher in the National Coral Reef Institute.