



Nota Breve | Short Note

## First record of smoothtail mobula *Mobula thurstoni* (Myliobatidae) in Cabo Verde

Sara S. Ratão<sup>1,\*</sup>, Denis Dias<sup>1</sup> & Victor Stiebens<sup>1,2</sup>

<sup>1</sup> FMB, Fundação Maio Biodiversidade, Cidade do Porto Inglês, Maio Island 6110, Cabo Verde

<sup>2</sup> Independent Marine Biological Consultancy, Cidade do Porto Inglês, Maio Island 6110, Cabo Verde

\*Corresponding author e-mail: [sara.ratao@fmb-maio.org](mailto:sara.ratao@fmb-maio.org)

**Keywords:** distribution Myliobatid ray, Maio Island, distribution

Mobulinae rays are part of Cabo Verde native biodiversity and belong to two extant genera, *Manta* and *Mobula* (Paig-Tran *et al.* 2013, Ward-Paige *et al.* 2013). *Mobula* spp. can be distinguished from *Manta* spp. by the mouth position, the shape of the cephalic fins and body size (Stevens 2011). Despite their large size, little is known about their population trends and precise distribution. They are particularly difficult to study in the wild and have restricted distributions (Ward-Paige *et al.* 2013, Croll *et al.* 2015). Two species of *Manta* and one of *Mobula* have been confirmed in Cabo Verde: the giant manta ray *Manta birostris*, the reef manta ray *Manta alfredi*, and the Chilean devil ray *Mobula tarapacana* (Reiner 2005, Marshall

2009, D'Oliveira 2010, Wirtz *et al.* 2013). Other Myliobatis such as the spotted eagle ray *Aetobatus narinari* have been recently pointed to Cabo Verde (Debelius 1997) and to Canary and Madeira Islands (Froese & Pauly 2016). However, it is likely that other species are present in these waters, given the similarity among species and the lack of studies, two main factors contributing for challenging species identification (Duffy & Abbott 2003).

The first record of *Mobula thurstoni* Lloyd, 1908 (Fig 1) in Cabo Verde occurred on 31st July 2015 in Praiona beach, 1.7 km from Praia Gonçalo, Maio Island (Fig. 2). It was found by Denis Dias, a FMB member before an in-water survey.



**Fig 1.** *Mobula thurstoni* caught in Praiona, on 31st July 2015. A) Ventral and B) dorsal views, C) mouth position, D) white-tipped dorsal fin and E) immature male claspers views.



**Fig 2.** Maio Island map, Cabo Verde, showing the location where the *Mobula thurstoni* specimen was found (X) on 31st July 2015.

According to local fishermen, the specimen was a bycatch of a gill net laid during the previous night. It was a newborn male (Fig. 1 C, D & F) as its disc width (DW) measured only 80 cm (Last & Stevens 1994). The animal was identified as *Mobula* as opposed to *Manta* due to its ventral mouth, and as *Mobula thurstoni* (Fig. 1A & B) as opposed to other *Mobula* species because of its short cephalic fins (length from the tip of one fin to the corner of the mouth lower than 16% of DW), the lack of spine at the base of the tail, the white-tipped dorsal fin, the long thin tail with a dorso-ventrally compressed base, and a double

curvature at the pectoral fins' anterior margin (Stevens 2011). Previous sightings of *Mobula thurstoni* could not be confirmed during surveys due to the long distance to animals and low quality of photographs (FMB pers. comm.). Validation of species identification through molecular analysis is needed to corroborate morphological identification. Given that *Mobula thurstoni* is listed as Near Threatened (Walls *et al.* 2016), and vulnerable to bycatch in driftnets and longlines, further studies are important to identify main habitats and to access its conservation status at a national level.

#### ACKNOWLEDGEMENTS

We thank Marc Bond, Simon Pierce, Andrea Marshall, and Ana Sobral for the confirmation of *Mobula* species identification and Rui Freitas for his assistance. We thank Save Our Species,

Fondation Ensemble and Darwin Initiative for funding our research on Maio Island, and Fauna and Flora International for their support.

#### REFERENCES

- Croll, D.A., Dewar, H., Dulvy, N.K., Fernando, D., Francis, M.P., Galván-Magaña, F., Hall, M., Heinrichs, S., Marshall, A., Mccauley, D., Newton, K.M., Notarbartolo-Di-Sciara, G., O'Malley, M., O'Sullivan, J., Poortvliet, M., Roman, M., Stevens, G., Tershy, B.R. & White, W.T. (2015) Vulnerabilities and fisheries impacts: the uncertain future of manta and devil rays. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 26, 562–575.
- Debelius, H. (1997) *Mediterranean and Atlantic fish guide. From Spain to Turkey – From Norway to South Africa*. IKAN-Unterwasserarchiv, Frankfurt, 320 pp.
- D'Oliveira, E.C. (2010) *Espécies marinhas da Ilha de Santiago*. Edição de autor, Tarragal, 466 pp.
- Duffy, C.A.J. & Abbott, D. (2003) Sightings of mobulid rays from northern New Zealand, with confirmation of the occurrence of *Manta birostris* in New Zealand waters. *New Zealand Journal of Marine and Freshwater Research*, 37, 715–721.
- Froese, R. & Pauly, D. (2016) *FishBase*, eds. 2016, Version 01/2016. Available from: <http://www.fishbase.org>
- Last, P.R. & Stevens, J.D. (1994) *Sharks and rays of Australia*. CSIRO, Melbourne, 513 pp.
- Marshall, A.D., Compagno, L.J.V. & Bennett, M.B. (2009) Redescription of the genus *Manta* with resurrection of *Manta alfredi* (Kreffts, 1868) (Chondrichthyes; Myliobatoidei; Mobulidae). *Zootaxa*, 2301, 1–28.
- Paig-Tran, E.W., Kleinteich, T. & Summers, A.P. (2013) The filter pads and filtration mechanisms of the devil rays: variation at macro and microscopic scales. *Journal of Morphology*, 274, 1026–1043.
- Reiner, F. (2005) *Peixes do Arquipélago de Cabo Verde*. Instituto Nacional de Desenvolvimento das Pescas, Mindelo, 340 pp.

- Stevens, G. (2011) *Field Guide to the Identification of Mobulid Rays (Mobulidae): Indo-West Pacific*. The Manta Trust, Dorset, 19 pp.
- Walls, R.H.L., Pardo, S.A., Bigman, J.S., Clark, T.B., Smith, W.D. & Bizzarro, J.J. (2016) *Mobula thurstoni*. (errata version published in 2016). *The IUCN Red List of Threatened Species 2016*: e.T60200A100016879. Available from: <http://www.iucnredlist.org>
- Ward-Paige, C.A., Davis, B. & Worm, B. (2013) Global population trends and human use patterns of *Manta* and *Mobula* rays. *PLoS ONE*, 8 (9), e74835.
- Wirtz, P., Brito, A., Falcón, J.M., Freitas, R., Fricke, R., Monteiro, V., Reiner, F. & Tariche, O. (2013) The coastal fishes of the Cape Verde Islands – new records and an annotated checklist (Pisces). *Spixiana*, 36, 113–142.

Received 10 August 2016

Accepted 27 September 2016