

**Do threatened *Rhynchobatus* in South Africa comprise a single species or a species complex?
Molecular genetic resource development.**

Shark-like batoids, including wedgefishes (*Rhynchobatus spp.*) are increasingly targeted for the fin trade in the western Indian Ocean (WIO). These species have among the most valuable fins on the trade market, and fetch the highest prices for local consumption. While *Rhynchobatus spp.* fins are sold for international trade, the meat is consumed locally in large quantities. Accordingly, *Rhynchobatus spp.* are important for not only the bioeconomy as a source of income, but are also important for food security in coastal communities that rely on fish as a primary food source. There is evidence of *Rhynchobatus* population declines, including in South Africa. All *Rhynchobatus spp.* are assessed as vulnerable or endangered using the IUCN Red List criteria. Therefore, management is required to ensure sustainable use. A species complex of 5 *Rhynchobatus djiddensis* species could be present in the WIO. DNA Barcoding data on BOLD clustered the 6 sequences available into 3 Barcode Index Numbers, suggesting there is more than one species present, as found in other regions including the northern Indian Ocean. The presence of a species complex could lead to erroneous data on population abundance and trends that are required for sustainable management of this bioeconomic resource. There have no studies to assess whether *Rhynchobatus* species in South Africa and the WIO comprise a single species, or a species complex. We aim to assess whether *Rhynchobatus* in South Africa and the WIO comprise a single species, or a species complex using sequence data including DNA Barcoding. Phylogenetic analyses using sequence data and a novel *R. djiddensis* mitochondrial genome generated, will elucidate the phylogeny of *Rhynchobatus spp.* Development of novel microsatellite markers from NGS data can be used for future studies assessing genetic diversity, and population structure. Data generated can inform management strategies to ensure sustainability of this bioeconomic resource.