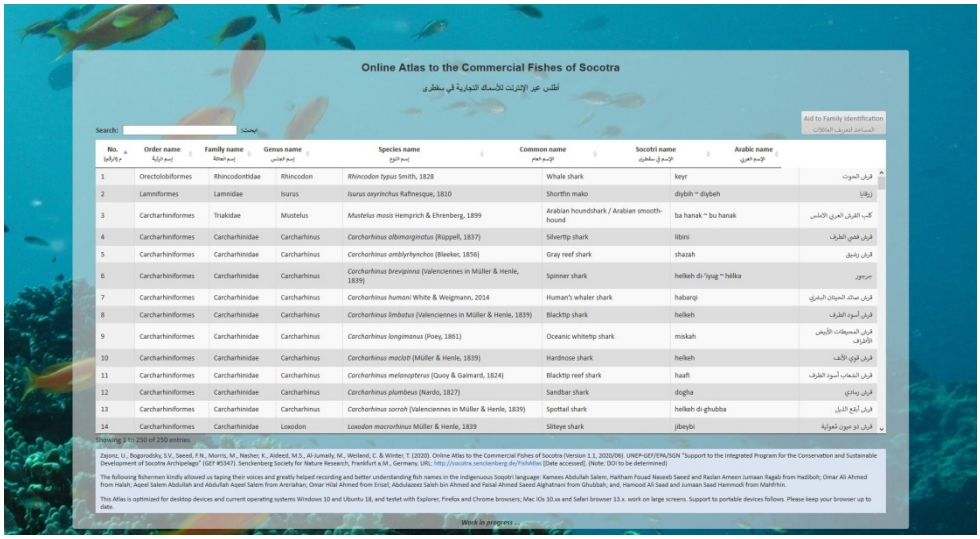
Abstract: Online Atlas to the Commercial Fishes of Socotra v1.2

Zajonz, U., Bogorodsky, S.V., Saeed, F.N., Morris, M., Nasher, K., Aideed, M.S., Al-Jumaily, M., Weiland, C. & Winter, T. (2020). Online Atlas to the Commercial Fishes of Socotra (Version 1.2, 2020/07). UNEP-GEF/EPA/SGN "Support to the Integrated Program for the Conservation and Sustainable Development of Socotra Archipelago" (GEF #5347). Senckenberg Society for Nature Research, Frankfurt a.M., Germany. URL: http://socotra.senckenberg.de/FishAtlas [Date accessed].

This Atlas represents an online repository of basic data and images, primarily dedicated to support fisheries management on Socotra Archipelago. Its main objectives are to (a) aid the identification of fish species encountered in the small-scale fishery of the island group; and to, (b) help preserving local fish denominations in the non-written indigenuous Soqotri language. The Atlas is directed at fishery practioners with the intention to promote the taxonomic identification of catch and landings at the species level in support of future evidence-based fishery management. The scope of the Atlas renders it also amenable though for use in neighbouring fishing regions of southern Arabia.

The Atlas is presently optimized for desktop devices and current operating systems Windows 10, Ubuntu 18 and Mac iOS 10.xx, and testet with Explorer, Firefox, Chrome and Safari 13.x. browsers, and can be accessed at http://socotra.senckenberg.de/FishAtlas/



The Socotra Archipelago (Yemen) in the northern Indian Ocean is recognized globally for its outstanding universal values, including unique patterns of biodiversity, which led to the designation of the entire island group as a UNESCO World Heritage Site in 2008 (Scholte, Al-Okashi & Suleyman 2011). The Archipelago, situated at the junction between the Gulf of Aden and the Arabian Sea, forms the centre of a region with relatively poorly known coastal and marine faunas. The fishes inhabiting the island group have recently been reviewed by Zajonz et al. (2019) who report 733 species and estimate the total richness at ~875 spp., thus providing the basis for the account presented herein.

Fishing used to be the second-most important source of income and food for the islanders after the pastoralist economy (Cheung and DeVantier 2006; Mehring, Zajonz & Hummel 2017). There are very productive small-scale and industrial-scale fishing activities around the Archipelago that supply both domestic and commercial demand. The small-scale fishery operates from >80 coastal villages (on Socotra, Samha and Abd al-Kuri) over the continental slope (Nichols 2001; Zajonz et al. 2016), using

either fibre-glass skiffs called ‘houri’ or larger ‘sambuq’ (Van Rensburg 2016, for details). Socotri fishers target shallow demersal and “reef” fishes, rock lobster and sea-cucumber inshore, and large pelagics, including sharks, and some deep demersals offshore. The customary management norms of the fishermen of Socotra have long been unique in the Arab region (Cheung and DeVantier 2006). The local fishery, however, has to date transformed into a more commercial enterprise, severely undermining best customary practices. Overfishing now presents a major challenge as illustrated by the negative trends in fish production and also confirmed by fishers. Research into these fisheries has however been limited and the quality of catch recording is insufficient to inform fishery management (Zajonz et al. 2016). The present Atlas seeks to act crucial aid to address this major shortcoming.

Local maritime and fishing customs are highly vested in oral traditions and thus in the indigenuous Soqotri language (Morris 2002, Van Rensburg 2016). Improved fishery management can only be successful if it adopts and addresses the local cultural treasures of marine resource use. The ‘Soqotri’ is one of the six Modern South Arabian Languages (MSAL), unwritten Semitic languages spoken by minority populations in southern Arabia, which are not comprehensible to an Arabic speaker. They are, however, not ‘modern’ yet named so to differentiate them from even older, extinct South Arabian languages. Due to rapid economic and socio-political change in recent decades, the MSAL have increasingly falling into disuse. Creating a permanent record of Soqotri is crucial to help preserving the traditional knowledge in sustainable natural resource use which the islanders have built up over generations. The present Atlas contributes to documenting the threatened Soqotri by providing audio records of native fish names by local fishers, and qualified written representations of these names as Arabic, Latin and phonetic trancriptions.

The Atlas is the first online repository of marine and fishery data for Socotra and Southern Arabia. It represents “work in progress” and will be iteratively improved, both in terms of data additions and technical upgrades. The Atlas was prepared with partial support of the UNEP-GEF Socotra Project (#5347).

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Version 1.2, 2020/07

The update includes primarily the activation of the ‘Aid to Family Identification’. The Aid is aimed at easing the correct taxonomic identification of catch and landings at the family level, requisite to the subsequent positive identification at the species level. The Aid refers to the technical terms and measurements of FAO’s Species Identification and Data Programme ‘Fish Finder’ and is conceived as illustrated guide that is browsed for the straightforward recognition of key morphological characters. Once the user arrived at the proper family identification a click on the family name opens a list of the species of the respective family that are included in the Atlas, serving the onward identification process. FAO’s Fish Finder programme is gratefully acknowledged for granting access and permission to use its baseline illustrations, which were modified by the authors to display the concerned key family characters. They are shown in English language as part of the illustration and mirrored in Arabic language to the left of the illustration. Basic biological information is also provided in both languages.

In addition to the Aid also the display of the Atlas on portable devices has been improved.

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