

Elasmobranch Species Recorded at Karachi Fish Harbour During the Baseline Surveys (2014-2023): A Review of Several Biological Elements With A Few Public-Attribute Trends

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ABSTRACT

The baseline surveys covered four months, from March 2014 to May 2023, and involved a wide range of 2475 specimens, including 50 different species from the main elasmobranch groups. Preliminary surveys were conducted for the elasmobranch and the seawater auction hall slaughter house at the Karachi Fish Harbour were considered for the observation, The surveys were conducted monthly throughout a range of time periods. These collections comprised ten skate species from three different families, eight separate group shark families, and twenty-two shark species from seven different families. The taxonomic classifications were used to analyze each of these species. Throughout the baseline surveys, several species were discovered to be the most commonly among the landings at KFH, although among the recognized species, others were uncommon species detected just once during the survey period.

Keywords: Specimens, Baseline Surveys, Elasmobranchs, Karachi Fish Harbour, Taxonomic Characterization.

INTRODUCTION

The 990 km of Pakistani coastline are home to a variety of living and non-living marine resources, including numerous species of finfish that are significant to the country's economy and are essential to both pelagic and demersal fisheries. The primary emphasis of current research is the species variety of the local elasmobranch fauna, like as sharks, skates, and rays, which are harvested for commercial purposes through deep-sea fishing and land at Karachi Fish Harbour (KFH), the largest fish landing facility along Pakistan coast. Elasmobranchs differs from bony fishes (Osteichthyes) due to sophisticated cartilaginous internal structure. It includes the sharks, skates, rays and sawfishes. Rays can be distinguished by large body disc, enlarged and flat pectoral fins continued to head region, both eyes on their dorsal surface and mouth and five (5) gillslitson the ventral side. Whereas tail is narrow and sometimes as long as their body's length and in some species the tail is double of their body length.

OBJECTIVES

1. Examine the demographic dynamics of a few chosen species of skate, ray, and shark, taking into account variables like size, age distribution, and reproductive habits.
2. Examine how sharks, skates, and rays have adapted physiologically to their particular surroundings, taking into account changes in pressure, salinity, and temperature.

- To carry out a thorough taxonomic investigation on sharks, skates, and rays in order to improve our knowledge of their biodiversity. This investigation will include the discovery of new species and the elucidation of current taxonomic classifications.

METHODOLOGY

Site and Sampling: Karachi Fish Harbour was selected as the sampling site and the sampling was done on monthly basis to observe the landings of elasmobranchs.

Measurements: Standard length (SL) labeled diagram (s) using biometric data obtained on the spot using measuring tape from snout to caudal fin in accordance with FAO norms (Psomadakis et al., 2015).

Along with the smaller specimens that were brought into the lab for a thorough inspection, digital photos were also taken for additional taxonomic research.

CONCLUSION/RESULTS

There were found to be forty-eight (48) different species of sharks, skates, and rays, which are mentioned in Tables 1 and 2. Published literature and identification guides, such as those by Bianchi (1985), Rajé et al. (2007), Ahmad and Lim (2012), Bradai et al. (2012), Abercrombie et al. (2013), Ahmad et al. (2013), Psomadakis et al. (2014), Psomadakis et al. (2015), etc., were used to aid with the identification process.

Scoliodon laticaudus, *Carcharhinus sorrah*, *Rhinoptera javanica*, *Himantura bleekeri*, *Rhinobatus halavi*, and *Rhinobatus annandalei* are among the species that are frequently observed. As a result, during the baseline surveys (1–5), observations were recorded for these species. Thus, a statistical analysis was performed on the measures of gravid mothers and their pups. Species that often have pups inside their bellies shortly after birth demonstrate their viviparity. Certain species were seen to be on the verge of reproducing, as evidenced by the yolk sac and eggs found inside their bellies, indicating that they were ready to lay eggs and give birth in secure hatching grounds.

Table 1. List of shark species recorded during surveys at the KFH.

S. No.	Group	Family	No. of Species
1	SHARKS	Alopiidae	2
2		Carcharhinidae	14
3		Hemiscyliidae	2
4		Laminidae	1
5		Sphyrnidae	1
6		Stegostomidae	1

Table 2. List of skates and ray species recorded during surveys at the KFH.

S. No.	Group	Family	Species
7	RAYS	Aetobatidae	2
8		Dasyatidae	9
9		Gymnuridae	1
10		Myliobatidae	2
11		Mobulidae	1
12		Narcinidae	1
13		Rhinopteridae	1

14	SKATES	Glaucostegidae	3
15		Rhinidae	2
16		Rhinobatidae	5

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