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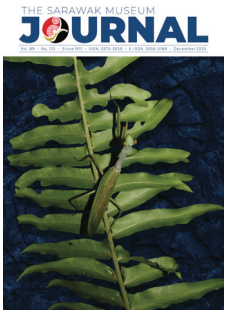

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PRELIMINARY STUDY ON SPECIES COMPOSITION OF SHARKS AND RAYS CAUGHT FROM SARAWAK WATERS

***Perceval Conder, Nurridan Abdul Han and Arfazieda Anuar**
Fisheries Research Institute Sarawak and Labuan Division, FRI Bintawa, Jalan Perbadanan, Peti Surat 2243, 93744 Kuching, Sarawak.
*corresponding author
perceval@dof.gov.my

ABSTRACT

Sarawak, Borneo, holds historical significance in ichthyology as it was a collection site for several early taxonomic studies of fish in this region. Cartilaginous fish are relatively diverse in the marine and freshwater environments of Borneo (Ahmad *et al*., 2013). Until recently, this fauna was poorly known, and reports by field scientists in the mid-19th century only produced incomplete records of elasmobranchs in the area. However, there is a lack of scientifically proven data on the diversity of shark and ray species in the waters of Sarawak compared to the waters of Malaysia in general. The main objective of this study is to obtain basic information on the composition of shark and ray species caught in the waters of Sarawak. Observations and data collection of landings at selected active landing jetties from Zone 1 Kuching, Zone 2 Sibu, and Zone 3 Miri were conducted from 2023 to 2024. The second objective is to compile, prepare and document the latest scientific findings for reference in the management of shark and ray resources in Sarawak. Current results indicate that more than five species of sharks and rays are commercially caught by fishermen from all regions and by drift net and trawl. For drift net, seven shark species from four families were recorded from drift net catches in Sarawak waters. The most prevalent species observed was the *Carcharhinus sorrah* (Spot-tail Shark), which accounted for 31% of the total capture. *Scoliodon laticaudus* (Spadenose Shark) and *Rhizoprionodon acutus* (Milk Shark) came in second and third, respectively, at 28% and 22%. Meanwhile, a total of 11 shark species representing five families were recorded from trawl net catches in Sarawak waters. The most abundant species were *R. acutus* comprising 22%, followed by *C. sorrah, S. laticaudus* and *S. lewini*, each contributing 21% of the total catch. In comparison, a total of nine ray species representing four families, were recorded from drift net catches in Sarawak waters. All species belonged to the order Myliobatiformes, indicating that stingrays dominated the ray assemblage in the drift net fishery...

Keywords: *yu, pari, borneo, elasmobranchii, Chondrichthyes*

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The family Dasyatidae made up the dominance of the catch, with six species collectively contributing over 70% of the total ray landings. *Pastinachus solocirostris* (Roughnose Cowtail Ray) was the most abundant species, representing 20% of the total, followed by *Brevitrygon heterura* (Scaly Whipray) at 18% and *Maculabatis gerrardi* (Whitespotted Whipray) at 16%. *Aetobatus narinari* (Ocellated Eagle Ray) and *Pastinachus gracilicaudus* (Narrow Cowtail Ray) were also common, accounting for 12% and 10% of the catch, respectively. While for trawl net, a total of 11 ray species belonging to five families were recorded from trawl net catches in Sarawak waters. Species from the order Myliobatiformes were dominant, comprising over 90% of the total catch, while members of the order Rhinopristiformes were present in low proportions. Within the family Dasyatidae, *P. solocirostris*, *B. heterura* and *M. gerrardi* were the most abundant, each contributing 18% of the total ray catch. *P. gracilicaudus* followed with 14%, *N. orientalis* at 4%, and *T. lymma* at 8%. Overall, the Dasyatidae family represented more than 75% of all rays recorded, indicating their dominance in the trawl fishery. Thus, further studies are important to obtain better and more competitive data regarding the status of Sarawak's fisheries.

Keywords: *yu, pari, borneo, elasmobranchii, Chondrichthyes*

INTRODUCTION

Borneo holds historical significance in ichthyology as it was a collection site for several early taxonomic studies of fish in this region. Schlegel & Müller (1839) described the first marine fish from this area, and shortly after, Heckel (1843) described freshwater species. Their work was followed by remarkable contributions from the Dutch field scientist Pieter Bleeker, who between 1850 and 1876 described more than 1,100 new fish species from the Indo-Malay Archipelago, including many chondrichthyans. He also produced the "Atlas Ichthyology des Indes Orientals Néerlandaises", which holds historical importance, based on the works of Schlegel & Müller (1839). Despite increasing catches and fishing effort for elasmo-branchs, the catch per unit effort (cpue) appears to be decreasing (Monintja & Poernomo, 2000), which suggests that the overall abundance of these cartilaginous fishes is probably declining. Lack of latest scientific data on sharks and rays in Sarawak triggered the worries among fisheries managers in managing the fishing of these species thus a study on these two species was conducted in a limited period of time. However, more studies are to be conducted in the future to gain as much info about these two amazing species.

The objectives of this study are to obtain basic information on the composition of shark and ray species landings in the waters of Sarawak, and secondly, to compile, prepare and document latest scientific findings for reference in the management of shark and ray resources in Sarawak.