Feeding Ecology of Silky Sharks (*Carcharhinus falciformis*) in Sri Lankan Marine Waters

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Sri Lankan waters support, many commercially important shark species including the Silky shark (*Carcharhinus falciformis*), a globally threatened species. It is frequently recorded as bycatch in pelagic fisheries and serves as an apex predator that plays a pivotal role in the marine ecosystem. However, scientific information on the feeding ecology of Silky sharks from Sri Lankan marine waters is limited. Therefore, the present study extensively examined the feeding ecology of Silky sharks in Sri Lankan marine waters, which may provide valuable scientific evidence to enhance their conservation efforts. A total of 51 specimens were collected as bycatch from pelagic longline and gillnet fisheries at four major landing sites during a three-month study period from December 2025 to March 2026. Collected shark specimens ranged from 73.3 cm to 253.3 cm (± 45.45 cm) in total length (TL). Stomach content analysis was conducted by evaluating stomach fullness and identifying prey items to determine dietary habits. Based on the analysis of stomach content, 24 were found to contain food, while 27 were found empty. The usage of the Index of Relative Importance (IRI) describes the overall diet of the Silky shark in the Sri Lankan marine waters, revealing a considerable dominance of teleost prey (88.92%), followed by cephalopods (10.32%) and crustaceans (0.74%), showing carnivorous behavior. Observed prey types under the teleost category mainly included members of the family Scombridae. No significant sex-based differences were observed in diet composition and feeding intensity, while the Morisita–Horn overlap index between sexes was extremely high (0.9925). On the whole, the Silky shark exhibited opportunistic feeding habits, relying primarily on teleost prey in Sri Lankan waters. These findings contribute to a better understanding of the trophic role of this apex predator in the marine ecosystem.

Keywords: *Cartilaginous fish, Diet composition, Elasmobranchii, Feeding habits, Index of Relative Importance (IRI), Morisita–Horn overlap index*