Feeding habits of the longnose lancetfish (*Alepisaurus ferox* Lowe, 1833) in the western Indian Ocean^{*}

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Abstract

The food composition of longnose lancetfish (Alepisaurus ferox Lowe, 1833) were studied based on samples collected during two research longline cruises in 1986-1987 in the western Indian Ocean. A total of 158 lancetfish, 50 from the western equatorial area (between the EEZs of Kenya and Seychelles) and 108 from the northern part of the EEZ of Mauritius (Sava-de-Malha Bank-Agalega Islands area), were sampled. In the equatorial area, 135 prey specimens (of 18 families or higher taxa) were found in the lancetfish stomachs. In the waters of Mauritius, 476 prey specimens of 53 taxa were found. Some prey were common in both areas. Pelagic crab, Hyperiidea, longnose lancetfish, barracudina, hatchetfish, hammerjaw, and Polychaeta were the predominant lancetfish prey. Great differences in the food composition of "small" (FL < 100 cm) and "large" (FL \geq 100 cm) lancetfish were recorded. For large lancetfish, the cannibalism rate, the occurrence of other large prey, and the occurrence of *Sargassum* algae floating at the ocean surface were greater than for small lancetfish. Regional differences in feeding habits were also recorded. This study show that prey diversity in the stomach contents of lancetfish is constrained by local prey availability and foraging behaviour. Our results provide important evidence that lancetfish adopt opportunistic foraging behaviour from nonselective to selective feeding. Spatial difference in diet composition related with difference in prey abundance shows that lancetfish selecting non-conspecific prey such as crustaceans when they are available and abundant in the environment, and switching to non-selective feeding with high-level of cannibalism in poor waters.

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