Abstract

Our knowledge of deepwater ecosystems along the Pacific of Central America is extremely limited. We analyzed the diet composition of 200 adult specimens of Lophiodes spilurus ranging in size from 7.8 to 17.8 cm total length (TL). Samples were obtained from deep bottom trawls (depth: 105-238 m) along the central Pacific of Costa Rica. We calculated the percentage of number (% N), weight (% W), and occurrence (% O) of each food item encountered in the stomachs; based on this information, the Index of Relative Importance (IR) was calculated. Moreover, we estimated diet overlap for three different size classes (<10.1, 10.1-15.0 and >15.1 cm TL). The results revealed exclusively two groups of benthic prey items: crustaceans (30%) and teleost fish (70%) in their diet. The most frequent preys were pandalid shrimps Plesionika trispinus (% O = 17) and the fathom mora Physiculus rastrelliger (% O = 12). The greatest diversity and frequency of abundance of food items was observed in intermediate-sized individuals (10.1-15.0 cm TL). Small-sized L. spilurus (< 10.1 cm TL) fed mainly on teleost fish, while larger (> 15.0 cm TL) preyed on large-sized stomatopods and teleost fish. There was a clear diet overlap between small and intermediate-sized L. spilurus (p < 0.05). However, differences in diet-overlap were not detected in small and large-sized individuals or intermediate and large-sized specimens (p > 0.05). Our results suggest that L. spilurus feeds exclusively on crustaceans (Decapoda and Stomatopoda) and benthic teleost fish along the Pacific of Costa Rica. While small and large-sized individuals showed a more pronounced selectivity for certain prey items, the high diversity of benthic prey items observed in intermediate-sized specimens suggest a more opportunistic foraging behavior.

Keywords

Diet composition, deepwater, Lophiodes spilurus, Pacific of Costa Rica, prey items, overlap.