

Feeding guild structure of a rocky intertidal fish assemblage in central Chile

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Abstract

The identification and analysis of the guild structure of vertebrate assemblages has played a fundamental role in the understanding of the underlying mechanisms responsible for their community organization and structuring. This approach generally has not been undertaken for temperate water intertidal fish assemblages. In central Chile, fishes are important components of the intertidal community, but no studies attempting to understand their organization and structuring have been done. In the present study, the diets of 13 of the most abundant species which inhabit tidepools in the rocky intertidal zone of central Chile were determined. A total of 660 fishes was collected at 5 sites: Los Molles, Con-Cón, Quintay, El Tabo, and Las Cruces. Dietary overlap between all species pairs was calculated and a phenogram of dietary similarity was constructed and analyzed using a bootstrapping technique to objectively determine guild membership. The results showed that the intertidal fish assemblage of central Chile can be divided into three feeding guilds: two guilds consisting of carnivorous species and one guild of omnivorous and herbivorous species. The possible causes and implications of the resulting guild structure and the potential effects of predation by these fishes on other components of the intertidal community are discussed.