Title

Spatial distribution of lower intertidal decapods on the northern Patagonian coast (Pelluhuín beach, Puerto Montt, 41°29'S, Chile)

Abstract

The decapod fauna of Chile's intertidal shores in inner seas south of 40°S has relatively low diversity because of the presence of low-salinity waters due to river inputs and glacial smelts; nevertheless it is possible that the same decapods species are found as on the northern and central Chilean coast. The aim of the present study was to determine the spatial distribution patterns of lower intertidal decapods on Pelluhuín beach, a small beach south of Puerto Montt, northern Patagonia. Data were obtained by counting individuals from random quadrants in intertidal zones; to the obtained data the variance/mean ratio was applied to determine if the specimens have a random, aggregate or uniform distribution, which are associated with Poisson, negative binomial or positive binomial distributions respectively. Among four of the species observed, a uniform distribution (positive binomial) was reported, and one had an aggregated pattern (negative binomial). The sites correspond to rocky shores in semi-urban zones, and in a protected zone. Our results on the interpretative probabilistic models of aggregated distribution patterns agree with previously reported observations of decapods on the rocky shores of Northern and Central Chile, specifically in interpretative probabilistic models.

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Binomial distribution; decapoda; intertidal; negative binomial distribution; spatial distribution

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