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A model to explain the formation of catarina scallop (*Argopecten circularis*) beds, in Magdalena Bay, Mexico

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During the years of 1989 and 1990, the yield of the commercial fishery for the catarina scallop, *Argopecten circularis* (Sowerby, 1835), in Magdalena Bay, was 750 million organisms (5186t of muscles), which were gathered by diving at 12–30m depth. This production is the largest registered to date and accounted for 53% of the total Mexican scallop production since 1981. The formation of large beds in that area is a sporadic phenomenon which needs to be studied. In the present paper, a model to explain the formation of such beds is drawn, in which the benthic-pelagic red crab, *Pleuroncodes planipes* (Stimpson, 1860), plays a role as primary substrate for the recruitment of the spat and simultaneously is the active transporter of juveniles into the Bay during the winter months of cold years. Apparently exploitable beds are formed only when temperatures of 16°C or lower, are registered deep inside the Bay for at least 2 months. Relating these findings with short and long-term temperature fluctuations, it seems possible to predict future exploitable stocks in the area.

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