García Rodríguez, F.J., S.A. García Gasca, **J. De La Cruz Agüero** & **V.M. Cota Gómez** (2011). A study of the population structure of the Pacific sardine *Sardinops sagax* (Jenyns, 1842) in Mexico based on morphometric and genetic analyses. Fisheries Research, 107(1-3): 169-176. DOI: 10.1016/j.fishres.2010.11.002

A study of the population structure of the Pacific sardine *Sardinops sagax* (Jenyns, 1842) in Mexico based on morphometric and genetic analyses

Francisco Javier García Rodríguez, Silvia Alejandra García Gasca, José De La Cruz Agüero & Víctor Manuel Cota Gómez

Several studies on the Pacific sardine Sardinops sagax have focused on the identification of stock composition and boundaries, using morphometric and genetic analysis. In this study, geometric morphometric body landmarks and control region mtDNA sequences were used to examine the population structure of sardines along the Pacific coast of the Baja California Peninsula. Samples from commercial landings in Ensenada (ENS), Baja California, and Bahia Magdalena (BM), Baja California Sur, were obtained during 2006–2007. The population hypotheses tested were based on the distribution of sea surface temperature (SST) along the coast, which was previously used to define stocks. A total of 275 sardines from ENS and 119 fromBMwere used in morphometric analysis. Fifty-three sequences from ENS and 106 fromBMwere used for genetic comparisons. Morphometric results showed differences among the three groups based on SST, suggesting the existence of different morphotypes. Percentage of molecular variance explained by the differences among three groups was significantly different from zero. However, the distribution of haplotypes in the groups did not show a clear phylogeographic pattern. Additionally, mismatch distributions supported relatively similar historical demographic events in the three groups. Although evidence of phenotypic groups along the Pacific coast of the Peninsula was found, current molecular data did not clearly support the existence of a phylogeographically structured population.

Palabras clave: producción pesquera, Sardinops, mitochondrial DNA, Control region, Pacific sardines, Genetic differentiation, Morphometric analysis