Extinction and recolonization of maritime Antarctica in the limpet Nacella concinna (Strebel, 1908) during the last glacial cycle: Aoward a model of Quaternary biogeography in shallow Antarctic invertebrates

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Quaternary glaciations in Antarctica drastically modified geographical ranges and population sizes of marine benthic invertebrates and thus affected the amount and distribution of intraspecific genetic variation. Here, we present new genetic information in the Antarctic limpet Nacella concinna, a dominant Antarctic benthic species along shallow ice-free rocky ecosystems. We examined the patterns of genetic diversity and structure in this broadcast spawner along maritime Antarctica and from the peri-Antarctic island of South Georgia. Genetic analyses showed that N. concinna represents a single panmictic unit in maritime Antarctic. Low levels of genetic diversity characterized this population; its median-joining haplotype network revealed a typical star-like topology with a short genealogy and a dominant haplotype broadly distributed. As previously reported with nuclear markers, we detected significant genetic differentiation between South Georgia Island and maritime Antarctica populatio