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BIOGEOGRAPHY OF *DURVILLAEA* HOLDFAST FAUNA: POPULATION CONNECTIVITY BETWEEN SOUTHERN OCEAN LANDMASSES

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Detached *Durvillaea* (bull kelp) adrift in the Southern Ocean may form effective rafts for holdfast-associated fauna, permitting long-distance dispersal of relatively sedentary marine invertebrates. Kelp rafts can stay afloat for many months and may travel hundreds of kilometres, and the possibility of their transporting fauna across oceans has significant implications for international ecology. A research project is currently underway to examine the genetic connectivity between source and destination populations of some of the invertebrate taxa found in *Durvillaea* holdfasts. Mitochondrial DNA of selected marine invertebrates, such as the brooding isopod *Limnoria chilensis,* will be compared between holdfast populations from various southern landmasses, including sub-Antarctic islands, Chile and New Zealand. If rafting is indeed a major mechanism of dispersal for kelp-associated fauna, this should be reflected in relatively small genetic differences between source and destination populations. Kelp rafting in the Southern Ocean may present an important vector for the international distribution of marine invertebrates, and this has relevance to many topical issues, including biodiversity, endemism and the spread of invasive species.