

Spatial variability in prey preferences of the intertidal whelks *Nucella canaliculata* and *Nucella emarginata*

Evie A. Wieters & Sergio A. Navarrete

Abstract

Feeding preferences of predatory intertidal whelks from three sites with marked differences in the availability of sessile prey were studied on the Oregon coast. Mussels (*Mytilus trossulus*) and barnacles (*Balanus glandula*) were simultaneously offered in replicated experimental arenas to individual *Nucella emarginata* in relatively wave-protected and *N. canaliculata* in wave-exposed areas at two sites, Strawberry Hill (SH) and Boiler Bay (BB). Each experimental arena in the two sites received either no whelks (controls for change in prey unrelated to whelks) or whelks collected from areas with (a) no mussels (Eagle Point, EP, San Juan Island, WA), (b) consistently low mussel cover (BB), and (c) seasonally high cover of small mussels (SH). Whelks from the site with no mussel cover (EP) largely ignored mussels and overwhelmingly preferred barnacles. Whelks from SH and BB did not significantly differ from one another in prey selectivity nor did they differ from the controls, suggesting no clear preferences for either prey. These results suggest that natural differences in relative abundance of prey among sites can affect whelk preferences for sessile prey and possibly influence their per capita effect on communities.