Records of the Red Abalone from British Columbia by Bill Merilees

The finding of a 'fresh' clean, beach washed red abalone shell (*Haliotis rufescens*) (see photo) near the mouth of the Oeanda River (about 19 km south of Rose Spit in the Queen Charlotte Islands, (53* 57' N, 131* 44' W) is a potentially incredible northward range extension for this species. Attached to a kelp holdfast, this 20 cm long specimen was found by local resident James Schatz, circa 1995. This specimen is now in possession of the author.

The red abalone's normal range is from Oregon south (Harbo, 1997), where this species supports a recreational and small commercial fishery. It is much larger and heavier than our local Northern or Kamtchatka abalone (*Haliotis kamtschatkana*). The presence of a central muscle scar on the shell of the Red Abalone (see photo) further separates these species.

This is not the only record of a red abalone on the British Columbia coast. A second specimen, in the possession of Steve Dennis, a sea urchin fisherman living in Tofino has also been seen and photographed by the author. This living specimen was collected live at Wilf Rock, (49* 08' N, 125* 29' W) near Tofino about 1985. According to Steve, "it was delicious."

The Department of Fisheries and Oceans, Nanaimo, also have a tissue sample taken from a commercially harvested abalone which, through DNA testing, has been confirmed as this species (Dr. Alan Campbell, Ruth Withler, pers. com.) This sample was taken on the Central British Columbia coast in 1998 or 1999.

The temporary appearance of southern marine species in British Columbia, such as the Pacific mole crab (*Emerita analoga*), is documented (Hart, 1982). The presence of other species such as the California datemussel (*Adula californiensis*), well north of their 'normal' distribution, though considered 'unusual' is not uncommon. The arrival in British Columbia of these and other species, is believed due to a variety of causes. These include the transport of larvae via northward ocean currents during periods of warm sea water (El Nino) events or via ballast water discharge; transportation by attachment to natural drifting materials such as logs and kelp rafts; and attachment to ships or abandoned fishing gear.

Due to the red abalone's very brief larval period before settlement and this species habitat preference for kelp beds, transport via attachment to dislodged kelp and drifting north would appear the most probable method for this species to naturally reach British Columbia. The drifting distance from central Oregon to B.C. is considerable, approximately 560 km to Tofino, and twice this distance to the northern tip of the Queen Charlotte Islands.

Rick Thomson, Senior Research Scientist at the Institute of Ocean Sciences, (pers. com.) indicated that the strong North East Pacific Coastal Current (aka the Davidson Current), can generate a speed of .5 knots per hour during the winter months. This current therefore would have the capability to move floating debris from southern Oregon to the southern British Columbia coast in a matter of three to four weeks and to the Queen Chartlotte Islands in about six to eight weeks. While this may seem improbable, it is well known that Great White Sharks, Leatherback and Green Turtles have appeared north as far as the Queen Charlotte Islands and even into Alaskan waters on occasion (Hart, 1973), Matsuda et. al., 2006). While these animals are able to assist their passage by swimming it is believed they have largely drifted or been carried north by currents.

The presence of drifting kelp 'islands' is a well-known phenomena to mariners who frequent our offshore waters. Some of these kelp islands are of considerable size, large enough to be considered navigational hazards. On a recent trip from Prince Rupert to Skidegate, many such floating 'islands' (often frequented by phalaropes) were observed.In this instance, it cannot be absolutely ruled out that these red abalone were not accidentally or deliberately released by persons unknown. However, three specimens, from separate, relatively remote locations, two living and one with algae still attached, would seem to strongly favor their arrival by natural causes. If red abalone can reach the British Columbia coast on occasion, one must therefore wonder what other southern, sedentary marine species might also arrive here on an infrequent basis? Any process that would increase provincial sea water temperatures by only a few degrees, such as El Nino events or global warming, might well assist or increase the temporary or permanent immigration of southern species to our province. As a result, vigilance by shore prowling naturalists, fishermen and researchers, may well discover 'new arrivals' and additions to our coastal flora and fauna.

References:

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