

The Straight Hermit Crab

by Bill Merilees

Who hasn't taken a small amount of time to be entertained by the antics of hermit crabs? These energetic, quarrelsome, tide pool crustaceans, that live and depend on another animal's shell for their safety, fascinate beach goers of all ages. There is a special term for this relationship; it is metabiosis - a mode of living in which one organism is dependent on another for providing an environment in which it can survive. In the case of hermit crabs the great majority of species, utilize an empty snail shell for this purpose. Tucked snugly into this 'home', the hermit crab's tender abdomen, is safe from would be meal seekers.

Of British Columbia's ninety-five crab species (Hart, 1982), twenty eight are hermit crabs. Of these, all but two rely



Bill Merilees photo

Straight Hermit Crabs residing in the Tusk Shells of *Antalis pretiosum* from 18 metres off the Bunsby Islands, near Kyuquot, Vancouver Island, B.C.

on snail shells for their 'home', which, in accordance with the snail's coiled shell the bodies of these hermit crabs are likewise spirally twisted. Of the two that remain, one utilizes the parchment-like casings of tubeworms. The other, the subject of this article, *Orthopagurus minimus* Holmes, 1900, the Straight Hermit Crab, relies on the shells of the scaphropod, *Antalis pretiosum* (Sowerby, 1860). Dentaliums, aka Tusk Shells, Indian Tooth Shell, and Money Shell, were better known during British Columbia's Fur Trade era, (circa 1750 – 1850) as Haiqua. These shells, strongly resemble an Elephant's tusk. For trade purposes they were strung end to end and measured by the Hudson Bay Company in fathoms (six feet). Forty shells equalled one fathom. (Mackie and Galois, 1990). The Haiqua, for a time between the 1820's and 1850's became the standard unit of barter or currency along our coast. To First Nation people, the dentalium was coveted as a prestigious ornament of considerable ceremonial importance.

Along our coast, dentaliums burrow into the sand and are entirely sub-tidal. It would be very lucky for a beach walker to ever find one. Scuba divers, or those using a small dredge on the right

substrates at special locations, can find them quite readily at water depths of 5 to 30 metres. Such was the case, June 6th 2012 near Kyuquot on the west Coast of Vancouver Island. Divers at 18 metres brought up quite a number. Most were dead shells occupied by the Straight Hermit Crab. These were easily seen and gathered as the crabs dragged their homes along the surface. The living dentaliums would be buried in the sand with only their narrow tip projecting above the surface.

The Straight Hermit crab is an interesting beast. This species is confined to our open west coast. Unlike traditional crabs that have 5 pairs of walking legs (hence their name decapods), hermit crabs have only three pairs, one pair of which are pinchers. The remaining two pairs are vestigial. This is an adaptation to living in another animals shell. The bright maroon red, right pincher is considerably larger than the left (see photo). When withdrawn into its shell, the right pincer acts in a similar manner to a snail's operculum or 'trap door', sealing off the aperture.

From the specimens collected, about half were carrying eggs. These ranged in colour from light yellow through orange to dark brown, to near black. This range of colours is indicative of their age, the darker the colour the closer they are to hatching into larvae (Graham Gillespie, pers. com.) These larvae will then drift on the ocean currents.

Like their tide pool relatives, straight hermit crabs are active and quarrelsome creatures. In order for a marine biologist or a seashore naturalist to appreciate this species, SCUBA or a small dredge are required to bring them into view. In a shallow bowl of sea water they will put on a 'good show'.

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