

BEACH TREASURES – HAVE YOU SEEN THEM?

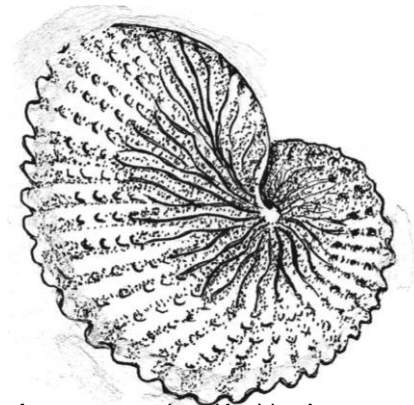
... Peter Crowcroft, *Eco-Logic Education and Environment Services*

... Drawings by Kaye Traynor

As the weather warms, and walking on the beach becomes much more appealing, keep a lookout along the high tide line for these two interesting, but rarely seen, beach treasures.

Argonauta nodosa: Known as the Knobby Argonaut, or often, mistakenly, called the Paper Nautilus, this animal is actually a species of octopus that freely swims in the open ocean, in what is known as the pelagic zone – i.e. neither close to the bottom nor near the shore. It is in the family Argonautidae.

Females of this species grow significantly larger than males, and secrete their paper-thin egg casing, that is such a rare and special find along our southern Australian beaches. To find a specimen in pristine condition, without any breakages, is considered by many as the pinnacle of beach combing fortune. Although this fragile structure acts as a shell, protecting and housing the female argonaut, it is unlike other cephalopod, true shells, and is regarded as an evolutionary novelty, unique to this family. The egg casing is typically around 150 mm in length, though some extraordinary specimens at 250 mm, or even larger, are known to grace some mantelpieces.

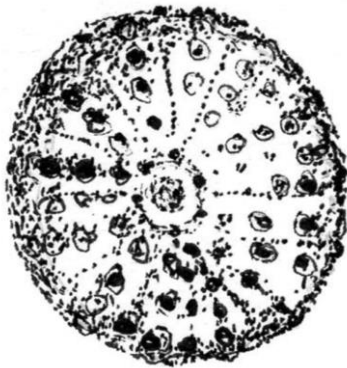


Argonauta nodosa Knobby Argonaut

Due to the radical dimorphism between male and females, not much was known about male Argonauts until relatively recently. Unlike the females, they do not secrete and live in an egg case, they reach only a fraction of the female size, and live a much shorter lifespans – only mating once, unlike the females that produce numerous broods of eggs throughout their lives. It can't be said we have a great grasp of the females' lives either, except that they are the prey of larger, open ocean species like tuna, dolphins and fur seals.

Centrostephanus rodgersii Black Sea Urchin: Although not commonly found here, this species of urchin may be one to look out for in the future, as it is known for its very recent, and damaging, increase in its home range, extending down Australia's eastern coast into Tasmania. This has been attributed to the urchin larvae being carried further south by an increase in the power of the East Australian Current (EAC).

First observed in Tasmania in 1978, this species produces areas known as 'barrens', the term describing a previously productive and diverse community of fish and seaweed, changed into an underwater rocky reef area, devoid of life – entirely due to the voracious grazing of the Black Sea Urchin.



Centrostephanus rodgersii
Black Sea Urchin

Urchins often persist in the barren after the algae has been decimated, meaning the area remains barren indefinitely. Keep a look out for the long, sharp, hollow, black spines of this species.

Reference: Pecorino, D et al, 2012, *Growth, morphometrics and size structure of the Diadematidae sea urchin Centrostephanus rodgersii in northern New Zealand*. Marine and Freshwater Research, 2012, Vol 63(7), 624–634. CSIRO PUBLISHING



Centrostephanus rodgersii
Black Sea Urchin Spines

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