

JIMBLES IN THE DERWENT

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On Saturday 24th February 2013, a fine summer afternoon, I went snorkelling with my family at Hinsby Beach, Taroona. The sea was calm and the water was clear, but still cold enough for me to don my wetsuit and gloves. I had only just reached water that was too deep for standing in when I spotted a box-jelly, actively zig-zagging backwards and forwards, within a metre of the surface. Within the space of ten minutes or so, we had spotted at least another two. All were within about ten metres of each other, swimming over a sandy seabed. I cornered one between my gloved hands and managed to escort it to shore, where I transferred it to a plastic water-bottle. I then swam the entire length of the beach at a similar distance from the shore, but failed to find any more.

At home, I transferred the box-jelly to a small sea-water aquarium. It continued to swim actively for the rest of the day, always heading towards the light. It was still busy the following day, though looking a bit leaner and less active towards the evening. I tried feeding it scraps of tuna, but it didn't seem interested.

The following morning I brought the now rather tired and battered-looking animal in to my workplace at Rosny, and invited our local jellyfish expert, Lisa Gershwin, to take a look at it prior to me photographing it (Plate 1) and preserving it for the Tasmanian Museum's scientific collections. She confirmed that it was indeed a southern box-jelly, *Carybdea rastoni* (Haacke, 1836), also known as a jimble. She explained that when adult, the species has a bell diameter of about 30 mm, and so my specimen, at about half that diameter, was probably still juvenile. However, she also explained that in the absence of food, they digest their own bodies and shrink accordingly.

Box-jellies are cubozoans and only distantly related to the scyphozoan moon-jellies and their ilk which are often abundant in Tasmanian waters. Unlike scyphozoans, which tend to drift with the currents, box-jellies are very active

predators, with a level of nous that you wouldn't expect in a lowly cnidarian. Jimbles have a pair of amazingly complex eyes on each of the four sides of the bell. They also seem to have enough neural processing power – despite lacking an obvious centralised brain – to make sense of the information that the eyes provide. They use this to avoid obstacles and perhaps to help them hunt small crustaceans and fish. They ensnare their prey in their venomous tentacles, of which they have only four – one at each corner of the bell.

Nearly all species of box-jelly are coastal, and tropical or sub-tropical. The genus *Carybdea* is unusual in that some of its member species occur in more temperate waters such as the Mediterranean, California, South Africa and New Zealand. The range of *Carybdea rastoni* is currently considered to extend from the north Pacific into southern Australian waters, including the Bass Strait coast of Tasmania. According to local expert Graham Edgar (pers. comm.), they have once been spotted at Bicheno, but neither he nor Lisa Gershwin was aware of them having previously been found any further south. Along the southern coast of mainland Australia, they can occur in dense aggregations of hundreds of individuals.

Fortunately for us southerners, jimbles are not normally considered dangerous, unlike some of their tropical cousins whose venom induces severe pain and even death. However, jimbles can inflict a nasty sting on naked flesh whose pain may endure for a couple of hours and may be followed by a red welt that can last for weeks. The recommended treatment for stings is to apply vinegar (because the acid denatures the stinging-cells), but not to brush the wound site if the tentacle is still embedded, as this can set off more stings.

I returned to Hinsby Beach to look for more jimbles on two occasions during the subsequent week. The second occasion was an early morning visit, because elsewhere this species is known to show peaks in activity around dawn and dusk. However, neither visit produced any further specimens. Neither did I spot any on subsequent snorkelling trips at Tarooma later into the summer or autumn. Nevertheless, assuming that the Derwent jimbles are recent arrivals and haven't merely been overlooked, their presence conforms to a pattern of increasing numbers of warmer-water species sighted in southern Tasmania (seasnake: Cube & Ling 2012; turtles: Bauer 2011). Together, these observations lend support to the idea that our southern waters are becoming

unusually warm – a pattern consistent with climate-change predictions.

For further information on the fascinating biology and physiology of jimbles – including why my jimble wouldn't feed but kept swimming towards the light, and perhaps why I didn't encounter any more when out snorkelling in a dark wetsuit – I recommend tracking down a copy of Matsumoto (1995) (as Lisa Gershwin kindly did for me).

ACKNOWLEDGEMENT

I thank Lisa Gershwin for showing such willingness and enthusiasm in sharing her knowledge of jimbles and other jellies with me.

REFERENCE

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- Matsumoto, G.I. (1995). Observations on the anatomy and behaviour of the cubozoan *Carybdea rastonii* Haacke. *Marine and Freshwater Behavioural Physiology* 26: 139–148.



Plate 1. The Tarooma jimble specimen, photographed in a dish of sea-water two days after capture, by which time it was looking rather tired and battered and had lost two of its four tentacles