

Australian Parastacidae

Ellen Clark's sketches of Tasmanian freshwater crayfish from her 1936 publication "The Freshwater and Land Crayfish of Australia" in the Memoirs of the National Museum Melbourne, No. 10, pp5-58

Lobster tales

*TERRY MULHERN is a Melbourne writer and academic who is obsessed with Tasmania's giant freshwater crayfish, *Astacopsis gouldi*. This wonderful creature appears regularly in the written and oral history of the state, and there are many tales to tell about it. This is just one of them.*



Ellen Clark

The lobster can unlock doors. I know what you're thinking – they have such large clumsy-looking claws – but I am speaking figuratively. The lobster gets me into places.

Over the years, the lobster has unlocked numerous farm gates and got my feet wet where others cannot go. Recently, the lobster unlocked the back rooms of Melbourne Museum. There, I saw not just any lobster, but *the* lobster, and through it, I learned about Ellen Clark.

My mission was to see the “type” specimen of the giant freshwater crayfish, or to give it its full scientific name, *Astacopsis gouldi* Clark, 1936.

In the 18th century, Swedish biologist Carl Linnaeus devised the binomial system of taxonomy, which assigns living things two-word scientific names. Since then, whoever first “describes” a new species gets to decide on the scientific name and has their surname and year of publication appended to it. Their precious first “type” specimen gets housed



“Miss Clark measuring a crayfish in her laboratory to obtain dimensions for diagrams.”

Australian Women's Weekly, Saturday, June 17, 1939, p46



Ellen Clark in the Melbourne Herald in the 1930s, left, Friday, August 16, 1935, p5, and "Woman's World" section, Friday, August 27, 1937, p13

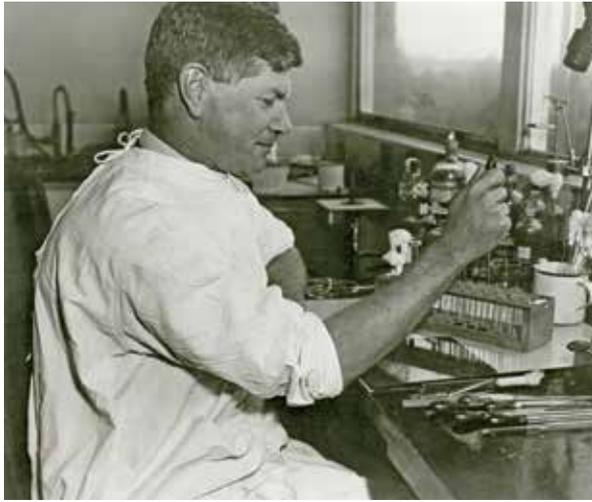
in a museum "collection" somewhere, hidden away from public view.

To my surprise, the type specimen for the lobster is not in the Tasmanian Museum in Hobart nor the Queen Victoria Museum in Launceston. It's not even in the Natural History Museum in London. The type specimen of the lobster resides in Melbourne. And this curiosity is due to one woman, Ellen Clark, who worked at Melbourne Museum in the 1930s, when it was known as the National Museum of Victoria.

Ellen Clark was a world-renowned expert on freshwater crayfish. This is surprising on several levels. In the mid-1930s, for a woman to be a scientific expert was unusual. But for that woman

to be aged just 21 was incredible. She acknowledged her uniqueness with characteristic good humour, saying, "I feel I should have a beard ... a little one eked out with wrinkles."

The remarkableness of Ellen Clark doesn't stop there. When she published her magnum opus, *The Freshwater and Land Crayfish of Australia*, in 1936, Clark had not even finished high school, let alone a university degree. By day, she worked as an assistant at the museum, guiding school groups around. By night, she studied to matriculate. Whatever spare time she had at work and home, she devoted to freshwater crayfish. When she finished her high school certificate, she enrolled at the University of Melbourne – but left before completing a single subject, because her circumstances, and an innate curiosity, had led her elsewhere.



Frank Macfarlane Burnett, 1949
Reproduced with the permission of the Walter and Eliza Hall
Institute of Medical Research

In 1940, after being passed over for a permanent position at the museum, she resigned and took a clerical job at the Walter and Eliza Hall Institute, Australia's first medical research institute. Ostensibly, she was employed as a secretary in the virology department. But ever the opportunist, at the institute Clark developed an interest in serology – the study of blood fluids – and refocused her private research on the blood-like hemolymph (a fluid equivalent to blood in most invertebrates) of crustaceans. True to previous form, by 1942 she co-authored several scientific papers (with the future Nobel laureate for medicine, Sir Frank Macfarlane Burnett, on influenza and on sero-typing hemolymph. Not surprisingly, this was Burnett's only paper on crayfish.

In 1945, Clark left the Walter and Eliza Hall Institute to work with her father John (unsurprisingly, a world-renowned entomologist also without formal qualifications), on the biology of ants. For reasons better known to her and her father, they decided to test the effect of air travel on these insects, and Clark escorted a shipment of 4,500 live bull ants to the United States.

In 1949, Ellen Clark travelled to Tasmania to collect crayfish specimens before heading to the US to work at Rutgers University in New

Jersey, where she studied the blood of animals from Australia's sub-Antarctic territories (and her beloved crayfish). There, Clark met her future husband and fellow serologist, Alex Guba. After marrying Guba, Clark remained in the US until her death in 1988.

All in all, I think you will agree that Ellen Clark was a most remarkable person.

...

Now to return to *the* lobster in Melbourne. Clark's 1936 research into Australian crayfish identified numerous new species and sorted out much confusion caused by previous misclassification. The lobster is a case in point. Up until her work, the giant freshwater crayfish from Tasmania's north – the medium-sized ones from the highland lakes and west coast rivers and the tiny specimens found from the north midlands to the south-east – were all thought to be localised variants of the same species – *Astacopsis franklinii* Gray. The Van Diemen's Land Crayfish, as it was known, was first described by John Edward Gray at the British Museum in 1845, using a specimen sent to him by Tasmanian botanist Ronald Campbell Gunn.

Almost a century later, when Clark meticulously studied the various specimens of *A. franklinii* at Melbourne Museum, she discovered they were in fact three distinct species. In Clark's revision, the southern crayfish retained the name *Astacopsis franklinii* Gray and the highland crayfish became *Astacopsis tricornis* Clark. She chose *tricornis* because ridges on their heads make them look like they are wearing a tricorn, or pirate hat. Perhaps her eye had been caught by a prominent Tasmanian of the time, the swashbuckling Errol Flynn.

For the northern giants, Clark chose the name *Astacopsis gouldi* in honour of Charles Gould, the first Tasmanian government geologist. As a member of the Royal Society of Tasmania, Gould presented many papers on fossils and rocks, as well as his observations of the lobster's habits and diet in 1870. This was soon after Gould was sacked by

the government. It seems Gould was rather better at locating elusive giant lobsters than the gold he was paid to find.

Another aspect that may have attracted Clark to Gould was that he too had a father who was a famous naturalist. In Gould's case, this was "The Bird Man", John Gould, the 19th century's best-known ornithologist, who also spent time in Tasmania. Some would say, however, that John Gould's fame was due mainly to the exquisite skills of his principle natural history artist, his wife and Charles' mother, Elizabeth Gould (née Coxen).

...

On the day I came to see *the* lobster at Melbourne Museum, I was met at reception by Chris Rowley, collection manager for marine invertebrates. I was somewhat disappointed when he hit the lift button and we started to ascend. I had always imagined the labyrinthine bowels of the museum were below ground, dark, dusty and festooned with cobwebs. Above ground, well-lit and scrupulously clean didn't seem quite right.

Rowley led me into a laboratory, where *the* lobster was sitting on a bench in its enormous glass jar. It was collected in north-west Tasmania by John Leadbeater, the Museum's taxidermist from 1857-1888, but unfortunately the original paper label on the jar disintegrated many decades ago and the date and location of collection were lost. It is believed Leadbeater caught it somewhere near Smithton in northwest Tasmania, possibly the Duck River.

To seek more clues, Rowley and I went into the massive storeroom housing thousands of specimens in jars. We retrieved the specimens of *A. tricornis* and *A. franklinii* that Clark so meticulously analysed in the 1930s. In comparison to the bottle holding *the* lobster, these were tiny – the size of jam jars.

The original labels were also long gone, but thankfully more complete details were transcribed onto new ones. The *A. franklinii* specimen was collected in 1888 near Cressy in the

northern midlands by "A. Bartholomew". The *A. tricornis* specimen was collected in 1893 from Lake St Clair by Sir Walter Baldwin Spencer, first professor of biology at the University of Melbourne.

Baldwin Spencer also has a Tasmanian claim to fame. One of his many interests was anthropology. He was the person who in 1904 reassembled Truganini's skeleton for display at the Tasmanian Museum.

Rowley then took me through into the scientists' office area and introduced me to Dr Richard Marchant, the senior curator of terrestrial invertebrates. After a long and enjoyable chat, I bid them both adieu and left well-satisfied with having met *the* lobster and peeked behind the curtain to see the hidden inner workings of a museum.

...

Earlier, while I was waiting in the reception area for Rowley, a young woman in her early 20s was also waiting. When she was greeted by her guide, I eavesdropped on their conversation. She was starting an internship at the museum and looked nervous, but excited. It was clearly an important moment. Later, as I strolled away through leafy Carlton Gardens, which surround the museum, I wondered if that young woman would face any of the same challenges that Ellen Clark had faced. I doubt that she would be expected to make the tea, but despite much progress, science still harbours unconscious bias and, at times, overt sexism. Even now, well into the 21st century, compared to her male counterparts, she is, statistically, less likely to stay in science long-term and is less likely to be promoted to the highest levels.

But I live in hope that the next half-century will bring as much, if not more, positive change as the last. I sincerely hope that in the future, if someone describes her as remarkable, it will be because of her intellect and achievements, and not because she managed to do so well "despite" being a woman. ■



left Tasmanian freshwater crayfish specimens from the invertebrate collection at Melbourne Museum: l-r, *Astacopsis gouldi* Clark, *Astacopsis triconis* Clark, *Astacopsis franklinii* Gray
Photo Terry Mulhern

below left John Leadbeater, 1858.
The National Museum of Victoria's first taxidermist

below "Portrait of Spencer", Walter Baldwin Spencer, 1901
Both reproduced with the permission of Museums Victoria

