

A special connection

Georgina Sweet and the Tiegs Zoology Museum

Karla Way and David Young

As you cast your eye over an object on display in one of the cultural collections at the University of Melbourne, you may not be aware of its history. Naturally, all these items have a story, which in some cases may be even more interesting than the object itself. A good example is provided by specimens that Dr Georgina Sweet donated to the Tiegs Zoology Museum early in the twentieth century.

This museum was set up by Professor Walter Baldwin Spencer (1860–1929) soon after his appointment to the new professorship of biology in 1887. The collection was intended primarily for teaching purposes and consists of zoological specimens from around Australia and overseas. In 1958–59 it was named in honour of Professor Oscar Werner Tiegs, chair of zoology from 1948 until his death in 1956.¹

Georgina Sweet (1875–1946) showed an early interest in science, encouraged by her father, George Sweet, who was the manager of the Brunswick Brick and Tile Works and an amateur geologist. George was an avid collector of palaeontological specimens, and Georgina and her sister often accompanied him on field trips. In this way, she would have become acquainted with the practical aspects of doing science.²



Georgina enrolled in biology as an undergraduate at the University of Melbourne in 1892, and so would have studied under Baldwin Spencer. She received her Bachelor of Science degree in 1896 and continued with postgraduate studies, receiving her master's degree in 1898 and a doctorate in 1904. She then became a staff member of the university, being appointed as lecturer and demonstrator in biology in 1908.³

Given its teaching role, the museum collection would have been familiar to Georgina during

her time as an undergraduate. As it happens, the official catalogue of the collection was started at that time, entitled *Register of specimens in the museum of the Biological School, University of Melbourne*. The first few entries acknowledge donations from overseas and are clearly dated 1893. Some of the early entries record casts of fossil specimens from George Sweet's private collection. Georgina's own donations appear much later, with entry numbers higher than 1,000. Sadly, not all of the Sweets' recorded donations can still be found in the collection.

Opposite: *Science students and staff, University of Melbourne, 1894*, photographic print, 16.5 × 21.5 cm. 2017.0071.00668, University of Melbourne Photographs Collection, University of Melbourne Archives. Georgina Sweet is seated, front left, and Professor Baldwin Spencer is standing, second from left.

Below: *Heliopora coerulea* (blue coral), from Funafuti atoll, coral mounted on painted plaster base, specimen height: 17 cm. MUZD 1911, gift of Georgina Sweet, Tiegs Zoology Museum, University of Melbourne. Photograph by Lee McRae. This specimen was collected by George Sweet in 1897.

During Georgina's time as a staff member, the Biological School was subdivided into separate departments, and the museum went with the Zoology Department. Accordingly, the labels of items on display usually have their collection number preceded by the initials MUZD (Melbourne University Zoology Department).

To view those of Georgina Sweet's donations that remain on display, it is good to enter the museum and find Cabinet 1, where two striking coral specimens can be seen, each mounted on a base. One is a stinging coral, genus *Millepora* (MUZD 1909), named for the burning sensation it causes when touched. The other is a blue coral, *Heliopora coerulea* (MUZD 1911), an ancient coral species named for its blue colour when alive (pictured right). The museum register indicates that these two came from Funafuti, an atoll that forms part of the island nation of Tuvalu, in 1897, so they must have been collected by George Sweet, who went with Sir Edgeworth David on an expedition to Funafuti in 1897.⁴ George would have returned home with some specimens of these two corals, which were abundant on Funafuti. He donated some fragments to the museum himself (MUZD 1066 and 1067), but the two mounted specimens on display are



Medallion of the David Syme Prize for Research awarded to Georgina Sweet, 1911, made by Stokes & Sons Pty Ltd, Melbourne, metal, 5.4 cm (diameter). Ties Zoology Museum, University of Melbourne. Photograph by Christopher Freelance.



recorded as having been donated by Georgina Sweet, years later of course, though the actual date is not noted. Presumably they remained in the family collection in the intervening period.

As well as being Georgina Sweet's undergraduate teacher, Baldwin Spencer was the principal supervisor of her master's and doctoral studies. He was keen to advance research on the native fauna of Australia, and this is reflected in Sweet's postgraduate work. One of her projects was on the anatomy of the marsupial mole, *Notoryctes typhlops*, noted for its resemblance to the real (placental) mole.⁵ A few native mammal specimens were donated by Sweet early on, but these have not been located in the collection. The only one that remains on display is a stuffed echidna, *Echidna aculeata* (MUZD 1968, now named *Tachyglossus aculeatus*), donated much later. This can be seen on the other side of the museum from the corals, in Cabinet 16.

During her research on native mammals, Sweet encountered numerous parasites in the animals she was studying. These soon became her main research interest, which led to her becoming a pioneer in the field of parasitology in Australia.⁶ Her first publication on the subject surveyed

the internal parasites of both native animals and introduced livestock. After being read at the Royal Society of Victoria in December 1908, the paper was published in its *Proceedings* in 1909, in two parts. As the introduction to the first part explains, Sweet's objective was to create an inventory of the types of parasites in native and stock animals, and to develop some methods for managing them.⁷ For this work, Sweet became the first woman to be awarded the David Syme Prize for Research, in 1911. She received both a financial grant and a medallion inscribed with her name. An interesting bit of history is that this medallion ended up in the Zoology Department (see above), along with later awards she received in the 1930s. Associate Professor Angus Martin, who was head of the Zoology Department in 1988, explained how this happened: 'One of our graduates of many years ago happened to notice that Georgina Sweet's medals and awards had come on the market (from where I do not know) and tipped me off; there followed some fast action by me and June [Hooke] which resulted in our securing the whole collection for the Department'.⁸

The David Syme Prize gave Sweet recognition that enabled her to form links with government departments

and obtain further funding. This allowed her to concentrate on studying the occurrence of one species of parasitic nematode (or long roundworm), *Onchocerca gibsoni*, which was afflicting livestock around the country. One result of this research was that Sweet co-authored a government pamphlet on this nematode and the problems it caused for Australian cattle.⁹ The adult worms live curled up in nodules in the breast and thigh muscles of cattle, making the beef unsuitable for sale. Four of these nodules, preserved in a jar, are on display in Cabinet 2 (*Onchocerca gibsoni*, MUZD 2005, pictured opposite). This specimen was collected by Sweet in Queensland and was evidently donated to the museum some years after her retirement.

In 1913, Sweet applied to the university for leave so that she could study the parasitic problems of cattle in other countries, on behalf of the Australian government. As she explained: 'I want to see the latest methods of teaching and research in parasitology. A subject which as such was not in existence at the time of my previous trip in 1900'.¹⁰ She travelled round the world in 1913–14, and the result was another government pamphlet on the nematode *Onchocerca*, published late in 1914.¹¹

Onchocerca gibsoni, four nodules of parasitic nematode preserved in fluid in glass jar, 10.5 × 8.0 × 4.0 cm. MUZD 2005, gift of Georgina Sweet, Tieg's Zoology Museum, University of Melbourne. Photograph by Lee McRae. This exhibit was donated by Georgina Sweet long after she collected the specimens in Queensland.



There are two remarkable objects on display in Cabinet 13, which Georgina probably brought home from this trip, or maybe from the undocumented trip in 1900. They are small-scale versions of life-sized models of dinosaurs made in England in 1853–54: *Megalosaurus* (MUZD 1508) and *Iguanodon* (MUZD 1509). The original models were produced for the Crystal Palace

Park in London by the English sculptor Benjamin Waterhouse Hawkins, under the direction of the comparative anatomist Sir Richard Owen.

Hawkins also arranged for the small-scale copies to be produced and sold to the public through the London-based business of mineralogist James Tennant.¹² Tennant advertised these as 'modelled

in strict accordance with the criticism and sanction of the highest scientific authorities'.¹³ Unfortunately, these models soon proved to be inaccurate, as they were based on insufficient material, but the small-scale copies continued to sell. The *Register of specimens* records that the two dinosaur models in Cabinet 13 were donated by Georgina Sweet, but the entry is not dated. It was evidently some years after her return to Australia in 1914.¹⁴

Cabinet 13 holds another treat for visitors: an authorised copy of a drawing by Waterhouse Hawkins. This records his recollection of the now famous dinner held inside the mould of the life-sized model of *Iguanodon* on New Year's Eve, 1853.¹⁵ Hawkins had invited some Crystal Palace officials and leading scientists, including Sir Richard Owen, to join him for this remarkable occasion.

Sweet obtained another year's leave of absence in 1922. She travelled with Jessie Webb, a University of Melbourne colleague who was involved in many of the same women's organisations. They sailed to Africa and were the first women visitors to cross that continent by the overland route from Cape to Cairo.¹⁶ This was not primarily a research trip, but Georgina did bring back some zoological specimens that found

Goliathus goliatus, male goliath beetle, mounted in wooden display box with glass front, 19.5 × 15.0 × 5.5 cm. MUZD 1999, gift of Georgina Sweet, Tiegs Zoology Museum, University of Melbourne. Photograph by Lee McRae. Georgina Sweet obtained this specimen in South Africa and later donated it to the museum.



their way into the museum collection at intervals, judging by their widely separated numbers. The first to be entered in the *Register of specimens* were two lion skulls with jaws, *Felis leo* (MUZD 1562 and 1563, now named *Panthera leo*). Only one lion skull is on display, in Cabinet 8, and we cannot be quite certain it is Sweet's because no number is attached to it. Nearby in Cabinet 8 are the skull and jaws of a common warthog from South Africa, *Phacochoerus africanus* (MUZD 1810), which is numbered.

A later entry is an impressively large insect, appropriately named the goliath beetle, *Goliathus goliatus* (MUZD 1999), also from South Africa (pictured left). It is pinned in a standard insect display box with a glass top and can be viewed in Cabinet 4. Preserved in a small glass jar nearby is a termite queen (MUZD 2395, no scientific name) from the Congo, noted for its enlarged abdomen. This is the last donation attributed to Georgina Sweet in the *Register of specimens*.

However, one more item connected with Sweet is on display next to the goliath beetle in Cabinet 4. This is a display box labelled 'The seven orders of insects' (MUZD 2982). It contains seven small insects, each representing a different group (Order). Other labels link this to Sweet in 1913, and

it was identified recently by Rohan Long among some material used for teaching. It is worth putting on display, both as a fine exhibit and as a memento of Sweet's contribution.

When Georgina Sweet retired from her position in zoology in 1924,¹⁷ staff and students wished to make 'a presentation to commemorate the excellent work done during her time of office'. This took the form of 'a handsome lectern and book case, in Australian blackwood'.¹⁸ A brass plaque with an appropriate inscription was attached to each of these. The plaque on the lectern reads: 'This desk has been placed here to commemorate the services rendered by Associate Professor Georgina Sweet. D.Sc. to the Biology Department in the University of Melbourne. August 1924'. The lectern and bookcase were placed in the biology lecture theatre, where Georgina had given numerous lectures, and were expected to remain there. It was when the Zoology Department moved to its new building in the late 1980s that these two historical items became associated with the Tiegs Zoology Museum. The bookcase is now placed next to the entrance to the museum, while the lectern is on permanent display in the museum.

Thus we can see that there is a fine selection of objects in our small museum that reflect Georgina Sweet's

life and contribution to science. These objects track her life, including the influence of her father, her academic work at the University of Melbourne, and her extensive travels. They are well worth a look.

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1 An excellent account of the museum's early years was provided by Anna Coultas in an earlier issue of this magazine, and as a student research project: Anna Coultas, 'Cabinets of curiosities, mystery specimens and a giant bird: A history of the Tiegs Museum, 1887–1959', *University of Melbourne Collections*, issue 7, December 2010, pp. 35–42; Anna Coultas, 'A history of the Tiegs Museum 1887–1959', unpublished report, cultural collections student project, University of Melbourne, 2009.

2 Cynthia V. Burek and Bettie Higgs, *The role of women in the history and development of geology: An introduction*, London: Geological Society, 2007.

3 Monica MacCallum, 'Sweet, Georgina (1875–1946)', in *Australian dictionary of biography*, vol. 12, Melbourne University Press, 1990.

4 David Harvey, 'Darwin, Charles 1809–1882', in David Hopley (ed.), *Encyclopedia of modern coral reefs: Structure, form and process*, Dordrecht: Springer, 2012, pp. 299–301.

5 Georgina Sweet, 'Contributions to our knowledge of the anatomy of *Notoryctes typhlops*, Stirling. Parts I & II', *Proceedings of the Royal Society of Victoria*, vol. 17 (new series), 1904, pp. 76–111.

6 Emanuela Handman, 'Remembering Georgina Sweet', *Australian Society for Parasitology Inc. Newsletter*, vol. 25, no. 1, March 2014, pp. 6–8.

7 Georgina Sweet, 'The endoparasites of Australian stock and native fauna. Part I: Introduction, and census of forms recorded up to date', *Proceedings of the Royal Society of Victoria*, vol. 21 (new series), 1909, pp. 454–502.

8 Angus Martin, Chairman's report to meeting of Zoology Department, 1988, quoted in Angus Martin, email to David Young, 8 September 2015.

9 John Anderson Gilruth and Georgina Sweet, *Onchocerca gibsoni: The cause of worm nodules in Australian cattle*, Sydney: Commonwealth of Australia, 1911.

10 G. Sweet, letter: 'Leave of absence—Georgina Sweet'. File 1913/398, University of Melbourne Archives.

11 Georgina Sweet, *Investigations into the occurrence of Onchocerciasis in cattle & associated animals in countries other than Australia*, Melbourne: Commonwealth of Australia, 1914.

12 Valerie Bramwell and Robert M. Peck, *All in the bones: A biography of Benjamin Waterhouse Hawkins*, Academy of Sciences of Philadelphia, 2008, p. 26.

13 Cited in Martin J.S. Rudwick, *Scenes from deep time: Early pictorial representations of the prehistoric world*, University of Chicago Press, 1992, p. 260–1.

14 An investigation into the provenance of these two models, accompanied by excellent photographs, was published in Rohan Long, 'Iguanodon and Megalosaurus: Two Victorian-era dinosaur models in the Tiegs Museum', *University of Melbourne Collections*, issue 18, June 2016, pp. 22–5.

15 Bramwell and Peck, *All in the bones*, p. 25.

16 Margaret O'Callaghan (ed.), *Cape Town to Cairo: A record by Jessie Webb of her journey with Georgina Sweet in 1922. Transcript of existing letters and diary, with photographs, added maps, footnotes, photographs and introduction*, Canberra: private publication, 2013.

17 MacCallum, 'Sweet, Georgina (1875–1946)'.

18 'A distinguished woman scientist: Dr. Georgina Sweet', *Register* (Adelaide), 2 September 1924, p. 4.