

Exquisite glass models of marine invertebrates, meticulously crafted and assembled piece by piece by 19th-century German artisans Rudolf and Leopold Blaschka, were collected by the Australian Museum and similar institutions worldwide. This sand anemone – a species found in Australian and New Zealand waters – is part of a collection owned by Cornell University, New York.



A menagerie in glass

The rediscovery of a set of superbly handcrafted sea anemones in the Australian Museum reveals a lost art that captured the beauty of marine life in glass.

STORY BY IVYSHIH



• *Sagartia pura*



• *Stomphia churchiae*



• *Calliactis decorata*



• *Caryophyllia smithii*



THEY'RE SIMPLY EXQUISITE – 48 delicate, vibrantly coloured glass models depicting an array of sea anemones and other marine invertebrates.

When they were rediscovered in the vast archives of the Australian Museum, in Sydney, these extraordinarily detailed figurines captured the imagination of all who saw them. But where did they come from and who crafted them?

In 2009 museum staff decided it was time to trace the origins of these mysterious glass creations and the task fell to archivist Patricia Egan. After navigating her way through numerous minutes, memos and letters from the museum's early history, Patricia hit paydirt. In the Trustee Minutes for 1879, she found reference to the museum's attempts to enrich its collection of educational and comparative anatomy specimens, along with recommendations from museum trustee Archibald Liversidge for some items to purchase and suitable suppliers.

This led to the discovery of a copy of a letter sent the same year to Václav Frič, who ran an educational supply business in Prague, regarding the purchase of "specimens illustrative of comparative anatomy", including "glass models of invertebrates made by Dr Blaschka". It confirmed the belief among museum staff that the models had been crafted by Leopold and Rudolf Blaschka, father and son craftsmen from Dresden, Germany.

During the late 1800s, the Blaschkas developed a method of using glass to craft replicas of soft-bodied sea creatures that were so lifelike it was as if they'd just been scooped from the ocean.

The mid-19th century was an era when natural history exploration flourished. Scientific expeditions to the far corners of the globe regularly delivered new species to eager scientists and museum curators in Europe. However, the preservation of marine invertebrates such as jellyfish proved extremely difficult. The traditional method, using formalin and alcohol, caused specimens' colours to fade and their shapes to distort, making them useless for display and educational purposes. With this in

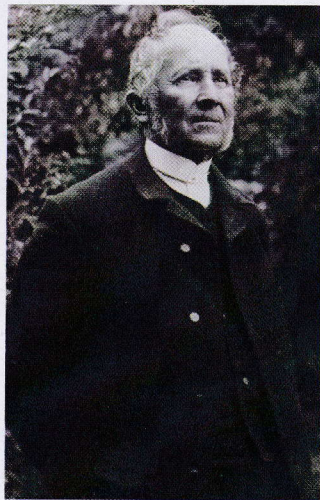
mind, in 1863 the then director of Dresden's natural history museum, Professor Ludwig Reichenbach, convinced Leopold Blaschka to focus his attention on the production of scientific glass models.

Leopold and Rudolf were descendants of a long line of glassmakers. The Blaschka family had been creating costume jewellery, laboratory equipment and even glass eyes for more than 300 years. Following Reichenbach's suggestion, father and son devoted themselves to developing techniques that would enable them to copy marine invertebrates with something close to perfection. Attempting to make the models as anatomically accurate as possible, they pored over scientific illustrations, frequently borrowing books from the library of famous German naturalist and illustrator Ernst Haeckel.

The models were crafted using a technique known as lamp-working, which involves glass being melted over a flame and pulled into shape using hand tools. The Blaschkas constantly experimented with new materials and developed their own glues and dyes.

The two craftsmen assembled glass sections with animal glues and attached model tentacles with fine copper wire. To create texture, they employed wax, resin and painted paper. Speckles of paint applied to the underside of glass re-created the translucent and dappled tissues often observed in marine creatures such as squid.

The Blaschkas' model-making abilities were unmatched, and they built a successful business selling their works to museums and universities worldwide. Estimates suggest that during a 27-year period they created about 10,000 marine invertebrate models. Records of sales have been traced to 177 collections throughout the USA, UK, Europe, India, Japan and Australia.



Rudolf Blaschka, left, and his father, Leopold Blaschka, were part of a family who had been crafting objects from glass – ranging from costume jewellery to prosthetic eyes – for more than three centuries.

Although Patricia managed to track down the source of the Australian Museum's models, the species they represented were unknown. She was unable to link the models with the surviving specimen display labels, which outnumbered the models.

However, some of the models had numbers stuck to their undersides and, with the help of Chris Meechan from the National Museum Wales, she was able to link some of these to model numbers in the Blaschkas' 1871 catalogue.

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Identifying the others was always going to be more difficult. "The problem is that some of them had been reclassified, and what they look like in the wild and look like in the model can be different, because in a marine environment, they can be clustered together," Patricia explained.

So, she enlisted the help of Australian anemone expert Michela Mitchell from Museums Victoria. "She came up here once and saw them, but mainly she worked off photos we sent to her and copies of the catalogue that we had from Chris Meechan," Patricia said. "It took her quite some time and she did it out of love."

Michela was able to link many of the models to illustrations in *Actinologia Britannica: A History of the British Sea-Anemones and Corals*, an 1860 work by Philip Henry Gosse that the Blaschkas themselves had studied. Eventually, Patricia and her helpers were able to identify all but one of the species represented by the models.

Although the Blaschkas' figurines are no longer used as educational models, their beauty and artistry is impossible to deny, and a selection is now back on display at the museum. **AG**