



LISBON MUSEUM'S TAXIDERMY RHINOCEROS: 'MODERN' CHALLENGES FOR DISPLAY AND PRESERVATION

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Over the last two decades, several specimens of taxidermied rhinoceros, preserved in museums all over the world, have been either damaged or stolen due to the high market value of their original horns. This has raised many concerns in natural history and science museums, zoos, professional associations and societies in general. Some museums have replaced the original horns of their specimens with replicas, others have removed their specimens from public display altogether, creating additional storage constraints.

In the autumn of 2016, an interdisciplinary team of the National Museum of Natural History and Science of the University of Lisbon (MUHNAC) safely removed the original horns of a complete, mounted black rhinoceros (*Diceros bicornis*) specimen. This procedure was well detailed in a specialised paper.¹ The decision-making process involved MUHNAC's directors, curators, conservators and taxidermists.

Sound research had been previously conducted into heritage and ethical conservation standards and best practices adopted in similar cases by other museums, having at the time Norfolk Museums Service's experience for reference. Data from historical and archival research proved to be paramount for the decision-making process. Archival research was particularly important for better understanding the inner construction of the taxidermy mount, and the urgent deadline caused by an increased demand to exhibit the specimen and increasing security concerns offered no time to create X-ray images.

This specimen – a full taxidermied mount of a female black rhinoceros – is, as far as we know, the only specimen of its type and size preserved in a Portuguese public collection. Currently

part of the MUHNAC collections, its history goes back to the former Portuguese colonies and collection-building practices of the mid-20th century. Provenance research has revealed that this specimen and her offspring were probably hunted in Angola in 1954, near the Luengue river in the Cuando-Cubango region by Joséf J. Fenykóvi (1891–?), with the purpose of being "offered [...] to the Portuguese Government to be part of the [future] Overseas Museum."² When the specimens arrived in Portugal, they were delivered to the Overseas Agriculture Museum and Garden (JMAU) in January 1957.³ Both specimens retain their original labels and inscriptions from Rowland Ward Ltd, an established taxidermy company founded in England in 1870,⁴ confirmed by the primary sources analysed in the historical archives.

Increasing demand for the adult specimen to be exhibited in temporary exhibitions at Portuguese museums, along with MUHNAC's intention of displaying it in a more permanent exhibition, raised a variety of concerns over the last two decades, from the security of the specimen itself to the safety of the museum staff and public in general. After 2011, rhino horn in Portuguese museums (and many of their counterparts in Europe and beyond) was targeted in a wave of violent international robberies. Museums were advised to consider replacing the original horns of their taxidermy mounts with replicas with the help of professional conservators.⁵

Removing horn from a mounted taxidermy specimen is not without its risks, however. There is a very real danger of damaging the specimen and losing material during the procedure. Among the MUHNAC team's concerns was

understanding the materials and techniques best suited to model and install the replica horns (given that the internal structure was unknown and might vary significantly depending on the manufacturer). Furthermore, the idea of removing original parts from a ‘cultural object’ of scientific relevance seemed contradictory to the ethics and fundamental principles of conservation, as well as being against everything a museum represents and does.

Historical research using literature about Rowland Ward Ltd provided important clues about the mounting process:⁶

Very large specimens would have a hollow torso, built like a barrel around the centre board, with wood wool bound over the top [...] cover it with strips of sacking (“scrim”) dipped in plaster of Paris. When this was dry, papier maché would be added to create a malleable layer, allowing the skin to be manipulated from the outside to create folds and natural cavities.⁷

Having decided to replace the *Diceros bicornis* specimen’s horns, several conservation guidelines were established. The intervention had to ensure the smallest possible risk of damage to the specimen and follow strict conservation standards (minimal intervention, full reversibility and perceptibility). The intervention was done step-by-step, allowing close monitoring and full evaluation of each phase. Work was performed discreetly, with safety and security measures in place to guarantee the team’s protection (including from the possibility of hazardous material within the specimen’s mount).

The process was fully documented at every phase. All removed fragments (including the original horns) were safely stored. The intervention was performed by the MUHNAC team of conservators and taxidermists⁸ and was completed in exactly three months. First, the two horns were removed using

different mechanical tools and equipment over three long, hard days. An adhesive mortar layer between the skin and the base of the horns was particularly hard to remove, as it was very strong, as were the thick nails attaching the original horns to the specimen’s inner wooden mannequin. Mortar samples were collected for informal analysis through nuclear analytical techniques for compositional characterisation. The results of this analysis indicate the presence of *plaster of Paris* and *papier maché*, as described by Morris and Ward.⁹

The horn replicas were made by first creating a mould around their surface, using silicone and polyester resin and then fibreglass. An acrylic polymer, water-based mineral resin and sculpting clay were used for the cast. The word ‘Replica’ was also cast and attached to each side of the new horns as a caution to would-be thieves. A variety of brushes were used to apply acrylic dyes for the colouration process, and an airbrush was used for the finer details. One of the final steps was to attach the replica horns to the specimen in their original position, using a ring of several layers of sculpting putty.

Following their mission of cultural heritage study and preservation for future generations (and particularly in making them more accessible for broader audiences), museums frequently encounter complex issues as a response to modern social problems and cultural challenges, as evidenced in the case of the Lisbon Museum taxidermied rhinoceros.



Photograph: Cesar Garcia, 2018

¹ Teixeira, Waterhouse, Moura & Andrade 2020

² Fenykövi 1958: 357

³ Pereira 1993

⁴ ‘The History of Rowland Ward Ltd.’

⁵ The Humane Society International (HSI) and the UK Natural Sciences Collections Association (NatSCA)

⁶ Morris 2003

⁷ Morris 2003: 94

⁸ Catarina Teixeira (coordination), Pedro Andrade, Ana Campos and Laura Moura

⁹ Morris 2003: 89 and Ward 1880: 16–31



The Belém Monstrance, crafted in 1506, was made from gold brought to Lisbon by Vasco da Gama. The gold was paid by the king of Tanzania as a sign of submission to King Manuel I of Portugal. A liturgical vessel designed to carry the Eucharistic host, the monstrance was commissioned by Manuel I and later bequeathed to the Jerónimos Monastery in Belém. Between 1514 and 1520, the Tower of Belém was constructed as a fortification to protect Lisbon's port. Its design incorporated iconography reflecting Vasco da Gama's recent return from explorations in the East. Among its stone-carved turrets sits an image of Ganda, the Indian rhinoceros who arrived in Lisbon in 1515. Today, gold is valued at \$550 000 per kilogram, while rhino horn fetches \$60 000 per kilogram on the black market.



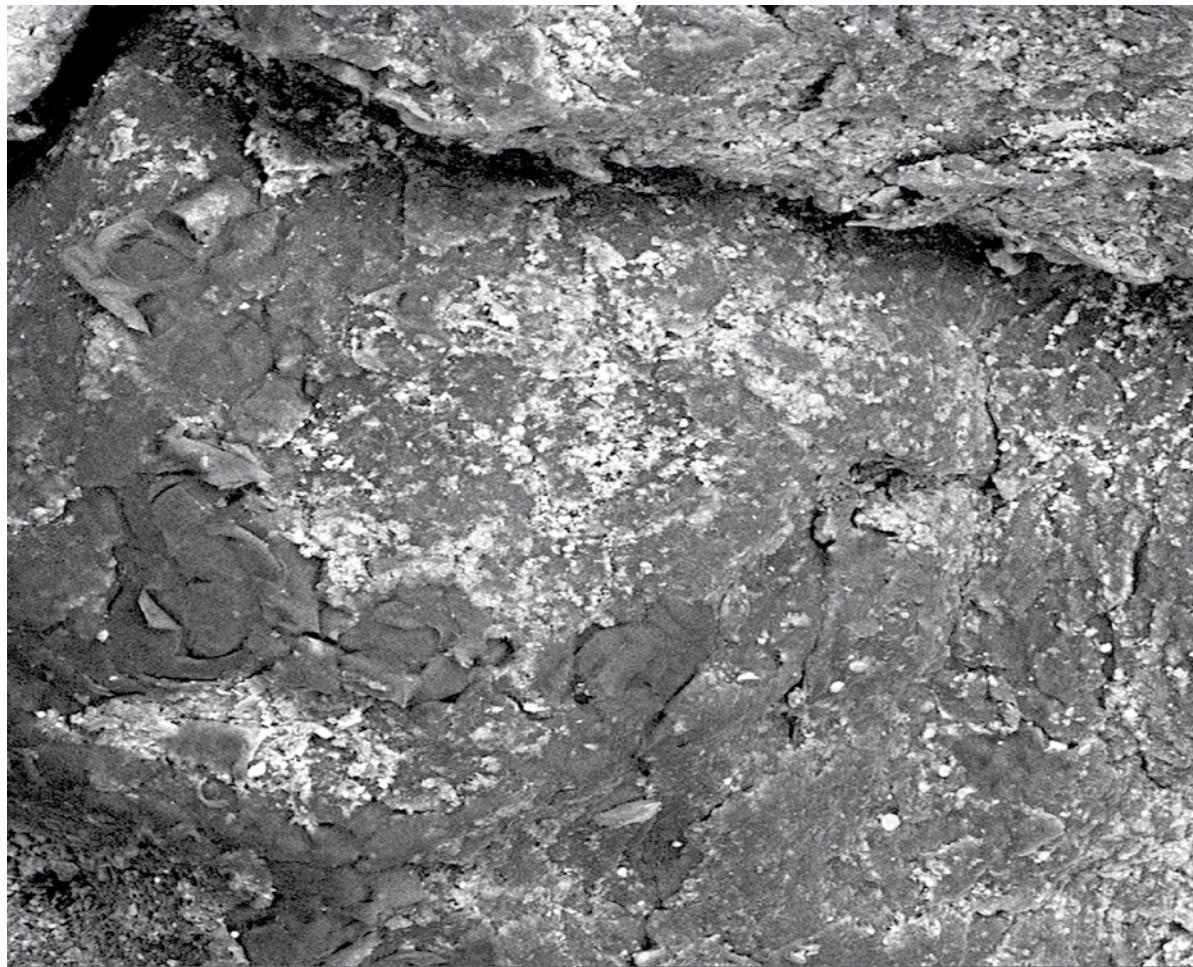
Exhibition detail. Communion wafers emblazoned with a gold cross of the Order of Christ, an icon associated with the Portuguese voyages of discovery and flown on the caravels that sailed around the African coast in the 1500s.

Stone rhinoceros on the Tower at Belém.





African big game hunting became popular in Europe from the mid 1800s, particularly after Roualeyn Gordon-Cumming returned to Britain from South Africa with 30 tons of animal trophies, and exhibited his collection at the 1851 Great Exhibition in London. The image of the heroic, white male hunter coincided with the development of photography, and thus the romantic notion of hunting in Africa, for the largely European aristocracy, was supported and sustained by the still image.



Scanning electron microscope image of rhinoceros cartilage. 500 x magnification.
Imaged for Fritha Langerman at the University of Cape Town

Rhinoceros horn is largely composed of keratin, a tough, fibrous protein also found in human hair and nails, with calcium and melanin as secondary components. The horn is constructed from finely packed hair filaments with a density of approximately 7 mm^{-2} and bonded by secretions from the sebaceous glands. In 2019, scientists from the University of Oxford synthesised artificial rhino horn from composite horse hair.

Count Giuseppe de Reali was a Venetian landowner and avid big-game hunter who embarked on twelve expeditions across Northern and Central Africa between 1898 and 1929. Upon his death in 1937, his vast collection of more than 300 trophies and ethnographic objects was bequeathed to the city of Venice, where it is currently displayed in the Natural History Museum. The museum acknowledges that the display of these objects reflects the concerns of the time and is now considered to be in 'dubious' taste by contemporary standards. One of the trophies, a white rhinoceros, was killed in the French Congo—now the Republic of Congo—in 1925.

Exhibition detail. Replica and photograph of the Reali collection at the Venice Natural History Museum.
Photograph: Fritha Langerman, 2017





Photograph: Fritha Langerman