

Steller's Sea Cow

Hunted, discarded, rediscovered



One of the earliest depictions of a Steller's sea cow. The origins of the drawing are unclear; it was published some time between 1834 and 1842 as plate 30 in Simon Peter Pallas' *Zoographia Rosso-Asiatica*, edited by the Russian Academy of Sciences.¹

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In 1895, collection curator Paul Matschie presented the mammals that were being exhibited at Berlin's Zoological Museum at the time in the *Naturwissenschaftliche Wochenschrift* (Scientific Weekly). Once he got to the manatees, he made mention of a species of which the Berlin museum, which was richly endowed at the time, did not possess a single specimen: Steller's sea cow (*Rhytina stelleri*, now *Hydrodamalis gigas*). Even today, the collection has neither a prepared specimen, a skeleton, nor even a single bone in its possession. This has to do with the history of the species – or, to be more precise, with the history of its extinction.

In the aforementioned article, Matschie characterised Steller's sea cow as “a genus that went extinct last century, *Rhytina stelleri*, which was at home at the most northern point of the Pacific Ocean”. He continues by describing how sea cows “were caught in great numbers because of their meat, because of their skin, and their fat”.² What Matschie does not explicitly mention is the connection between the hunt for these animals and the species' extinction. But it is precisely this connection between exploitation and extermination that is crucial to the history of Steller's sea cow and to the question of why the Berlin museum does not own a single one of the animal's bones.

Observing Extinction

While Matschie did not draw any causal links between human influence and extinction, the zoologist Karl Ernst von Baer was looking at anthropogenic extinction events from the mid-19th century. To the history of the sea cow's extinction von Baer added the history of its extermination, which he described as a ‘war of annihilation’ (Vertilgungs-Krieg).

Steller's sea cow, a herbivorous ocean mammal of the North Pacific that weighed up to eight tonnes, was one of the animal species whose extermination von Baer examined.³ Its [extinction](#) was a relatively recent event, meaning he was able to observe it almost in real time – which would later become possible for numerous species, like the passenger pigeon. In this case, there were only a few decades between the first description of the northern sea cow and its extermination. First observed by the Bavarian zoologist and botanist Georg Wilhelm Steller during the second Russian Kamchatka expedition to research the North Pacific, no live sea cows were observed again after 1768.⁴ Steller discovered a population of animals when Captain Vitus Bering's expedition ship was stranded on Bering Island (later named after him) off Kamchatka in 1741. The expedition made the Commander Islands famous, and from then on, fur seals and sea otters were hunted for their hides – with grave consequences for local populations.⁵ Sea cows were mainly killed for their meat, which was eaten by the workers of the expanding fur trade.

The first hunting expedition spent the winter of 1743/44 on Bering Island. By 1763, more fur hunters had made landfall on the island, where they mainly survived on cured sea cow meat. According to reports, the last specimen was probably killed on Bering Island in 1768. Numerous other species in the North Atlantic and Indian Ocean that had lived on islands at the periphery of early modern [shipping routes](#) met a fate similar to that of the sea cow: they were hunted for trade, killed for food, and soon driven to extinction by humans.

The sea cow remains that could not be utilised stayed where they were and were rediscovered in the late 18th century, this time as exciting natural history finds. The hunt for the fossils of prehistoric lifeforms was now joined by the hunt for animals that had recently been driven to extinction by humans, for which the term 'subfossils' gained currency around 1860. Historian of science Irina Podgorny has examined this history of reutilisation.⁶ She shows how the remains of hunting and trade became collection items that were intensely coveted on the natural history market. For science, as we read in Podgorny, waste advanced to a new source of (natural) history.

Reconstructing Extermination

According to Podgorny, species extinctions created an economy of scarcity, which intensified due to demand from museum collections. It was scarcity that produced a natural history value that had not been previously recognised or viewed as something valuable beforehand. Value is only created retrospectively when finds are scarce. This also applies to Steller's sea cows. Because these animals had only been distributed throughout a very limited region, fossil discoveries were rare. In the early 19th century, apart from Steller's description and one unauthenticated drawing, there was no other evidence of the species apart from two ribs and a single tooth plate housed at the Russian Zoological Museum of the Academy of Sciences. Skulls, bones, teeth, and jaws, which were used to determine similarities with other genera and families, thus became coveted objects on the global market. The Petersburg Academy of Sciences paid a premium to anybody who could supply it with Rhytina skulls and museums wrote their own collecting instructions for sea cow skeletons.

“The bones of the sea cow show how quickly the expansion of capitalism not just exterminated animals but also reutilised its own waste”,

as Irina Podgorny writes. She continues:

“In this way, the era of global circumnavigation integrated its own waste into the circulation of goods and initiated processes by which accumulated food waste or animal carcasses simultaneously produced collection items, knowledge, and scarcity.”⁷

The leftovers of human consumption thus served not just [taxonomic studies](#) and comparative anatomy; rather, the relicts also allowed scholars to begin conducting new reconstructive research in the fields of archaeology and palaeontology – an archaeology of extinction events, in which (colonial) scientific collecting and research played their own parts. In 2004, almost 250 years after Steller's sea cow went extinct, the marine biologist and historian Richard Ellis described its disappearance as a “paradigm of anthropogenic extinction”.⁸ By contrast, other research has posited that this species had already begun going extinct before the evolution of Palaeolithic humans.⁹ Nonetheless, the extermination of Steller's sea cow has now been integrated into an entangled history of the loss of biodiversity. There is hardly a book about anthropogenic extinction that does not mention Steller's sea cow.¹⁰ It has advanced to the status of ‘flagship species’ – or, to be precise, to the status of ‘extinct flagship species’.¹¹ While endangered animals like the polar bear (“Knut”) and the pandas exhibited in zoos symbolise a species' impending death for the public,¹² which is why they are utilised not least in [conservation marketing](#), the sea cow – like the dodo (*Raphus cucullatus*), the passenger pigeon (*Ectopistes migratorius*), and the Tasmanian tiger (*Thylacinus thylacinus cynocephalus*) – points to a bygone future. Their symbolic force derives from the way their irrevocable loss points to the destructive power of human beings. At the same time, the knowledge about the history and dynamics of extermination that goes back to Steller and von Baer feeds into visions of the future – potential scenarios of extinctions to come.¹³

However, just like the original drawings,¹⁴ barely any material traces of Steller's sea cow have survived. The global inventory only comprises about 20 skeletons, 62 skulls, and 550 bones, which are being preserved in 51 museums in 16 different countries.¹⁵ The Museum für Naturkunde Berlin still does not possess a single one of these finds. This material scarcity has become an essential characteristic of the history of Steller's sea cow. The question of whether and how much evidence of a species can be housed in natural history collections thus depends closely on the history of the species' respective exploitation. This is demonstrated not least by Paul Matschie's tour through the Berlin museum's mammals exhibition in 1895: the elephant seal, Matschie wrote, “is, due to its highly esteemed blubber and due to its skin, an object of zealous hunting. The tongue of this animal in particular is said to taste excellent.” The canine teeth of a walrus being exhibited beside it “are often processed like ivory”, while the “fur seal supplies its precious fur, ‘sealskin’”.¹⁶ Matschie's exhibition guide seems like a kind of sales [catalogue](#), listing the advantages and values of various objects. Today, it feels like an archive documenting how humans have both utilised animals and exploited nature. It is therefore hardly surprising that, amongst the mammals that were being exhibited in the newly opened museum building in Berlin in 1895, there were other species that were being threatened by

extinction or that had already gone extinct shortly before. “*Otaria stelleri*, Steller’s seal, is one of the mammals that, like the zebra, the quagga, the wisent, the blesbok, etc., are close to extinction”,¹⁷ wrote Matschie. Even more so than they did in 1895, these findings thus raise the question: will there come a day when Earth’s biodiversity can only be visited in collections instead of in the natural world? Behind the animal specimens in natural history museums, there are not just stories of collecting but also stories of disappearing – and of the relationship between the two. They form a material archive of species diversity and extinction. Reflecting on the role that museums have played in this history and redefining it is one of the major challenges facing natural history museums today.

Footnotes

1. On the history of this drawing, see <http://www.hans-rothauscher.de/steller/seacow.htm>. (17.12.2021) ↵
2. Paul Matschie. “Die Säugethier-Schausammlung”. *Naturwissenschaftliche Wochenschrift* 10, no. 26 (30.06.1895): 311-315, 313. ↵
3. Cf. Karl Ernst von Baer. “Untersuchungen über die ehemalige Verbreitung und die gänzliche Vertilgung der von Steller beobachteten nordischen Seekuh (*Rytina Ill.*)”. *Mémoires de l’Académie impériale des sciences de Saint-Petersbourg* 6.5, no. 2 (1840): 53-80; Karl Ernst von Baer. “Über das Aussterben der Thierarten in physiologischer und nicht physiologischer Hinsicht überhaupt, und der Untergang von Arten, die mit den Menschen zusammen gelebt haben”. *Bulletin de l’Académie impériale des sciences de Saint-Petersbourg* 3 (1861): 369-396. On von Baer’s studies, see also Irina Podgorny. “Recylen: Vom Schrott der Ausrottung zur Ökonomie der (Sub-)Fossilien”. In *Sammlungsökonomie: Vom Wert wissenschaftlicher Dinge*. Ina Heumann and Nils Güttler (eds.). Berlin: Kadmos, 2016: 23-46; as well as Irina Podgorny. “Requiem, oder (Aus-)Sterben in historischer und geologischer Zeit: Knöchelverzeichnis KV 626”. In *Mikrozeit und Tiefenzeit*. Friedrich Balke et al. (eds.). Paderborn: Fink, 2018: 128-142. ↵
4. Cf. Georg Wilhelm Steller. “De bestiis marinis”. In *Novi Commentarii Academiae Scientiarum Imperialis Petropolitanae*, vol. II. St. Petersburg: Press of the Academy of Sciences, 1751: 289–398; also in “The Beasts of the Sea”, transl. by Walter Miller and Jennie Emerson Miller. In *The Fur Seals and Fur-seal Islands of the North Pacific Ocean*, vol. 3. Washington D. C.: Govt. Print. Off., 1898–1899: 179-210. ↵
5. On how the local population interacted with and enslaved some of them, see, e.g., Eberhard Schmidt (ed.). *Wirtschaft und Handel der Kolonialreiche*, vol. 4. Munich: Verlag C.H. Beck, 1988: 328. ↵
6. Cf. Podgorny, 2016; Podgorny, 2018. ↵
7. Cf. Podgorny 2016: 35. ↵
8. Richard Ellis. *No Turning Back: The Life and Death of Animal Species*. New York: HarperCollins, 2004: 27. ↵
9. According to F.S. Sharko et al., the genome of Steller’s sea cow indicates that this species had started going extinct before the arrival of Palaeolithic humans. F.S. Sharko et al. “Steller’s Sea Cow Genome Suggests this Species Began Going Extinct Before the Arrival of Paleolithic Humans”. *Nature Communications* 12, no. 2215 (2021). <https://doi.org/10.1038/s41467-021-22567-5>. ↵
10. See, e.g., Ryan Tucker Jones. *Empire of Extinction: Russians and the North Pacific’s Strange Beasts of the Sea, 1741-1867*. Oxford: Oxford University Press, 2014; Richard Ellis. *The Empty Ocean: Plundering the World’s Marine Life*. Washington D. C.: Island Press, 2003. ↵
11. P. Kyne and V. Adams. “Extinct Flagships: Linking Extinct and Threatened Species”. *Oryx* 51, no. 3 (2017): 471-476. <https://doi.org/10.1017/S0030605316000041>. ↵
12. Ursula K. Heise. *Nach der Natur: Das Artensterben und die moderne Kultur*. Berlin: Suhrkamp, 2010. ↵
13. Attempts are now being made to reconstruct extermination histories like that of Steller’s sea cow by collecting, collating, and analysing historical data. By combining drawings of hunts made on 18th-century Russian expeditions with data on the lives of sea cows, scholars will be able to more precisely model the dynamics of the sea cow’s extinction. S.T. Turvey and C.L. Risley. “Modelling the Extinction of Steller’s Sea Cow”. *Biological Letters* 2, no. 1 (2006): 94-97. <https://doi.org/10.1098/rsbl.2005.0415>. ↵
14. Just as complex as the story of how these fossils have survived is the story of the historical sea cow drawings. None of the sea cow drawings made by Steller himself have survived. On the Kamchatka expeditions, Corporal Friedrich Pleniser, who joined the crew as a painter and surveyor, made drawings for him. After he returned in 1743, Steller sent his manuscript “De bestiis marinis” to St Petersburg by boat together with a number of drawings that Pleniser had probably drawn on Bering Island. They included two depictions of a female sea cow. While the manuscript did in fact reach St Petersburg, the drawings never arrived and are considered lost. Between 1834 and 1842, the St Petersburg Academy published this sketch of the sea cow as plate 30 in the illustrations to Simon Peter Pallas’ *Zoographia Rosso-Asiatica*. At that time, none of the *Waxell maps* existed yet, and there were no skeletons in Europe. The exact origins of the drawing are unclear. According to Stejneger, it could be one of Pleniser’s original sketches commissioned by Steller, which later made its way to Pallas, who at any rate had it printed in this rough form. All information about the drawings is from Hans Rothauscher, who explains the history of the surviving images of the sea cow here: <http://www.hans-rothauscher.de/steller/seacow.htm>. (17.12.2021). ↵
15. Cf. Stefano Mattioli and Daryl P. Domning. “An Annotated List of Extant Skeletal Material of Steller’s Sea Cow”. *Aquatic Mammals* 32, no. 3 (2006): 273-288; Leonar Stejneger. “Skeletons of Steller’s Sea-Cow Preserved in the Various Museums”. *Science* 21, no. 523 (1893): 81. <https://doi.org/10.1126/science.ns-21.523.81-b>; as well as <http://www.hans-rothauscher.de/steller/museen.htm> (05.10.2021). ↵
16. Paul, 1895: 314. ↵
17. *Ibid.*: 314. ↵