

IV.

Transdisciplinary Provenance Research
on Objects from Colonial Contexts

The Coloniality of
Natural History Collections

Transdisciplinary Provenance Research on Objects from Colonial Contexts

The Coloniality of Natural History Collections

Katja Kaiser

Abstract

Natural history collections have so far only played a marginal role in debates on collections from colonial contexts. They are either mentioned without their specificities being defined, or not discussed at all. Yet natural history museums experienced an unprecedented expansion of their collections during colonial expansion. Using the example of the Berlin Natural History Museum (*Museum für Naturkunde Berlin*), this chapter highlights the colonial entanglements of the institution and its collection. In addition, initial thoughts on specificities of natural history collections from colonial contexts are presented as first results from projects at this museum. It is argued that natural history collections must be considered in an interdisciplinary context with ethnological or anthropological collections in order to ascertain their similarities and differences and to reconstruct shared acquisition contexts and provenances.¹

La colonialité des collections d'histoire naturelle (Résumé)

Jusqu'à présent, les collections d'histoire naturelle n'ont joué qu'un rôle marginal dans les débats sur les collections issues de contextes coloniaux. Elles sont soit mentionnées de manière très approximative, soit totalement inexistantes. Pourtant, les musées d'histoire naturelle ont connu une expansion sans précédent de leurs collections lors de l'expansion coloniale. À partir de l'exemple du muséum d'histoire naturelle de Berlin (Museum für Naturkunde Berlin), ce chapitre met en lumière l'enchevêtrement colonial de l'institution et de sa collection. En outre, les premières réflexions sur les spécificités des collections d'histoire naturelle issues de contextes coloniaux sont présentées en guise de premiers résultats des projets menés dans ce musée. Les collections d'histoire naturelle doivent être considérées dans un contexte interdisciplinaire avec les collections ethnologiques ou anthropologiques afin de déterminer leurs similitudes et leurs différences et de reconstituer les contextes d'acquisition et les provenances communes.

Introduction

Museums have been described as colonial constructs and manifestations of colonial power, their functions being collecting, ordering and governing. Already the acquisition of objects and materials was closely interwoven with colonial relations of domination, and in this framework collecting became ever more a form of imperial conquest.² The translocation of objects from the periphery to the metropolis symbolically established the latter as the “heart of empire”,³ a dynamic also evident in Berlin, the colonial metropolis of Germany, whose museums received the majority of all “scientific” objects from the German colonies. In the museums, the objects were arranged and displayed according to Western taxonomies, demonstrating assumed knowledge and authority over the overseas territories.

How could the accumulation of objects be better exemplified than on the Biodiversity Wall of the Natural History Museum Berlin (*Museum für Naturkunde Berlin*, Figure 1)? Masses of animals on display, even more in the depots, specimens from all over the world, ordered systematically, demonstrating appropriation of and control over the natural world. A controlled tableau of wonders that veils questions of provenance and colonial entanglements under an abundant and alleged aesthetics.



Figure 1 | Biodiversity Wall of the Natural History Museum Berlin © Natural History Museum Berlin



The natural sciences cannot be conceived of without the system of nature that is based on externally visible differences, hierarchies and a strict Latin nomenclature. This knowledge system has a universalistic claim and spread worldwide during the colonial era, suppressing other knowledge systems. Building up this system of nature has relied on colonial expansion and the extraction of resources as well as knowledge from the Global South, with their subsequent translocation to the Global North. At the same time, colonial ideologies were informed by ideas of difference, hierarchies, order and control. This applied not only to flora and fauna but also to humans.⁴

Natural history collections are a central part of the history of imperial appropriation of the world. Collecting relied largely on colonial infrastructures; it profited from the asymmetrical power structures and the exploitation of labour.⁵ Through the extraction of resources and knowledge, the museums in the metropolises of Europe developed into colonial archives, providing the infrastructure for continued political and economic exploitation of colonised territories and people. Leading natural history museums functioned like other state archives. Instead of files, images and other forms of documentation, natural history specimens formed an infrastructure for governing and advancing colonial structures of power and knowledge production.⁶

Still, in current public, political and media debates about collections from colonial contexts, natural history collections have only played a marginal role so far. They are either mentioned without their specificities being defined, or they are not mentioned at all. Yet natural history museums experienced an unprecedented expansion of their collections during the colonial era. To this day, collections of colonial provenance form a nationally and internationally significant basis for research and exhibitions.

At the Berlin Natural History Museum (*Museum für Naturkunde Berlin*), we are only just beginning to understand the specificities of natural history objects from colonial contexts and to let the colonial past become part of the institutional self-understanding of natural history institutions. We are also aware of the ongoing epistemic, economic and political forms of violence and persisting colonial structures referred to as coloniality. We are discussing a profound transformation of the ways in which we work with natural history collections, how we exhibit and research them, how we enter into collaborations and how we understand digitisation processes.

Research and discussions on the coloniality of natural history collections have been an integral part of the work of the *Humanities of Nature* department for many years.⁷ Since May 2020, a research project has been dedicated

to these questions in order to shed light on the special features of natural history collections, taking current discussions in science, society and politics into account to develop recommendations and standards for dealing with natural history objects from colonial contexts that supplement already existing guidelines.⁸ In a broad internal discussion and in close exchange with other scientific institutions, civil society actors and researchers from various disciplines, we are dealing with the political, legal and ethical aspects of natural history collections and with the colonial history of the Natural History Museum Berlin.⁹ This chapter provides insight into this work, reflecting on the specificities of natural history collections of colonial provenance and the role of transdisciplinary provenance research.

Exhibition and Taxonomy

In exhibitions or publications, transparent communication on the colonial history of natural history is still rare. Natural history stands for “nature”, which is defined as space beyond history. In this respect, the object descriptions give the name of the species on display and sometimes also the location where an object was found. More precise information on the manner and time of acquisition is rarely given.¹⁰

However, even in the largely dehistoricised exhibition rooms, the genus and species names in the binomial nomenclature offer hints on the connection between natural history and politics. In the dinosaur hall of the Natural History Museum Berlin, for example, visitors find the skeleton of *Dysalotosaurus lettowvorbecki*. The object was excavated in Tanzania at the beginning of the 20th century, then the colony of German East Africa, and taxonomically described in Berlin in 1919. While the genus name means “lizard difficult to catch”, the species-specific attribute honours General Paul von Lettow-Vorbeck (1870–1964), commander of the German troops in the colony of German East Africa during the First World War. Lettow-Vorbeck’s cruel and inhumane warfare led to the deaths of hundreds of thousands of people on the African side. After the First World War, Lettow-Vorbeck was seen as a war hero by conservatives and nationalists – not least by means of this species description. Since 2020, the exhibit description has included a critical commentary in this respect.¹¹

The colonial species names are also an expression of epistemic colonisation that suppressed local knowledge systems and continues to have an effect. To this day, for example, the indispensable contribution of the local population in the colonies to the success of the collectors and the production of knowledge is hardly mentioned, and “nature” is presented as detached from economic, cultural and political connections.¹² The recontextualisation of natural history objects is all the more important because species names, unlike street names, cannot be changed, since they form the basis for the description of natural phenomena and the ordering of collections.

New panels in the dinosaur hall of the Natural History Museum Berlin pay respect to the contributions of local workers who helped to excavate the dinosaur fossils in Tendaguru, Tanzania, then the colony of German East Africa. Some names of the hundreds of indispensable workers that appear in the historical documents are mentioned. Researchers at the museum have also started to name newly described species after local workers, such as *Australodocus bohetii* in 2007, named after the Tanzanian preparator Boheti bin Amrani, thus for the first time honouring a Tanzanian person in the naming process related to the fossils from Tendaguru.

“Nature”, Objects or Belongings?

In many cases, zoological and botanical specimens or mineralogical material may not be “sensitive materials”, such as human remains in particular, or even ethnological objects as such.¹³ However, they are more than “scientific objects” or merely natural resources. They were and are integrated into cultural, economic and political contexts. For example, certain songs of the local population at Tendaguru originated during the excavation of dinosaur bones in the then colony of German East Africa. These songs lament the loss of the culturally and economically valuable fossils, which were used as fertiliser or for medical purposes, as Musa Sadock and Halfan Magani have demonstrated in their oral history research in this region.¹⁴ To First Nations people from Australia, animals can be considered as family and plants as kin. In this respect, the question arises whether natural history objects should not also be understood as “belongings”, a term conventionally used to refer to ethnological objects. Case studies make it clear that natural history museums

need to broaden the one-sided, Eurocentric, scientific view of “nature” to include the perspective of a multitude of actors in the regions of origin and in diasporas in Germany. Only in this way can the interpretative authority be shared and the collection be transformed into an interdisciplinary and global source of knowledge.

Closely linked to the previous point is the question of who actually owns “nature”. A natural history object – on the basis of which a new species is described – is called a type specimen. Types are among the most valuable biological objects for the scientific community. They are linked to the archiving institution, formalised by international regulations to guarantee their accessibility.

Currently, international protocols regulate access and equitable benefit sharing in the field of genetic resources. These rules were introduced in 1992 under the Convention on Biological Diversity, and a legally binding framework was created with the Nagoya Protocol in 2010. Since then, the holotypes of newly described species from joint field research must be kept in the country of origin.¹⁵ But existing guidelines circumvent the problem of ownership of historical material.¹⁶ For example, the Code of Ethics for natural history museums, which was developed by ICOM in 2013, only refers to the problem of ownership in one place. If the material is already outside the country of origin, and there – in the understanding of ICOM – “value” was “added”, for example a plant was classified and dissected, the material is then generally considered to be the property of the institution that did so.¹⁷ If the concept of the “society of origin” is already controversial in debates about ethnological objects, the question for whom the collections are relevant beyond the scientific community is all the more urgent for natural history collections. The fact that hardly any restitution is currently demanded does not mean that no injustice was inflicted in the gathering of the collections. Rather, it sheds light on the attitude of non-transparency that has been practised for decades and prevents a productive exchange.

Digitising Collections from Colonial Contexts

The digitisation of catalogues and collections worldwide is now seen as an important means to advance access to the holdings of museums, universities and archives. Moreover, it is considered a major vehicle for negotiating the future of museums and their role in mobilising participation and social change. Digitising objects is supposed to provide all interest groups with at least digital access. Apart from the fundamental problem of whether digitisation can be equated with accessibility, other challenges arise in the context of a natural history museum. The Natural History Museum Berlin, for example, holds some 30 million objects, rendering the task of identifying and tagging those from colonial contexts a lengthy if not impossible process. How can we enable symmetrical description systems in the databases? And how should a digitisation process be designed in order to allow for different epistemologies and perspectives right from the start?¹⁸

These questions call for a transdisciplinary and international approach to provenance research. Starting with a short excursus on the colonial history of the Natural History Museum Berlin, this chapter will therefore discuss in the following the advantages of an approach that brings together various information stored in several collections and archives as well as different expertises and knowledges.

Transdisciplinary Collecting Practices

When the first collections of today's Natural History Museum Berlin were brought together in 1810 in the east wing of the newly founded Friedrich Wilhelm University (from 1945 onwards the Humboldt University), their holdings were manageable. However, the first guide to the collection, published by Hinrich Lichtenstein (1780–1857), the director of the collection for many years, already points to its rapid growth.¹⁹ The collections were expanded in many cases by objects from colonised areas overseas that Europeans began to systematically explore, including Brazil, the Cape of Good Hope in South Africa, the Pacific Islands and Australia. Especially in the period from 1884 to

1919, when the German Reich had colonies in Africa, the Pacific and China, the Zoological Museum of today's Natural History Museum Berlin played a prominent role in imperial politics. By a resolution of the Federal Council in 1889, it received all objects from expeditions financed by the state and, following an addendum to this resolution in 1891, also the materials collected by colonial officials.²⁰ The sheer number of collections arriving was overwhelming; the freight lists of the shipments indicate that literally tons of objects were extracted from the colonies year after year.²¹

The history of museum collections can only be understood as an entangled and global history. In the field, zoological, ethnological, botanical, mineralogical and anthropological objects were often collected by one and the same person, and it was only in the metropolitan centres that the shipments were divided and distributed to separate institutions. Furthermore, the Berlin museums gave duplicates of botanical, zoological and ethnological objects from the German colonies to other German museums, so we often find objects from one collector in Berlin as well as in many other museums in Germany and worldwide.

One example of this transdisciplinary collecting practice that must be understood as the norm rather than an exception is that of the botanist Georg Zenker (1855–1922). Besides his work as a colonial official and plantation owner in the then German colony of Cameroon, he collected zoological, botanical and ethnological objects. He also appropriated human remains and sent them to museums in Berlin.²² More than a thousand objects collected by or related to Zenker can be found scattered throughout the collection of the Natural History Museum Berlin, for example in the bird and mammal collections. Extensive correspondence of Zenker's with custodians of the Zoological Museum can be found in the museum's archives. These letters provide valuable insights into Zenker's collecting practice that could be also relevant for his ethnological, anthropological and botanical collections. There are plans to digitally connect these holdings to enrich our data, add further information on acquisition contexts and historical backgrounds and also to shed light on local actors and local knowledge documented in the archival sources. Furthermore, Zenker-related objects can also be found at the Berlin Ethnological Museum and the Botanical Museum as well as in other collections worldwide. His descendants in Cameroon and Germany keep diaries and correspondence. It would be most valuable for different users to digitally connect these interdisciplinary collections and to explore a wide range of possibilities for cooperation with partners in Germany and in Cameroon.

To sum up, it is clear that natural history collections must connect their resources with different museums and disciplines in order to foster productive transdisciplinary provenance research. The exchange of information is also crucial, especially in relation to actors who collected in a transdisciplinary capacity. This has to be achieved on an international level because, especially in the natural sciences, hundreds of thousands of duplicates were given to other institutions worldwide.²³ In the natural sciences, the exchange of data between institutions and in data portals such as GBIF has been established for a long time.²⁴ Websites such as “Bionomia” use this infrastructure to link natural history specimens to collectors using person identifiers such as the Wikidata Q number for deceased persons.²⁵ In the case of Georg Zenker it lists more than 20,000 specimens in 69 institutions worldwide.²⁶ At the Natural History Museum Berlin we are working on recording and sharing information on collectors as linked open data. This process is under way within the framework of collection development as part of the “Future Plan”.²⁷ By opening the data, we hope to create new opportunities for cooperation with museums, collections and interested publics worldwide.



- 1 The thoughts presented here rely deeply on discussions with many colleagues of the Humanities of Nature department at the Natural History Museum (*Museum für Naturkunde*) Berlin and are published also as Kaiser, Katja; Heumann, Ina (2023): "Zugänge", in: Arbeitskreis Provenienzforschung (Ed.): *ENTZUG, TRANSFER, TRANSIT – Menschen, Objekte, Orte und Ereignisse*, (in press).
- 2 Classen, Constance; Howes, David (2006): "The Museum as Sensescape: Western Sensibilities and Indigenous Artefacts", in: Elizabeth Edwards, Chris Gosden, Ruth B. Phillips (Eds): *Sensible Objects: Colonialism, Museums and Material Culture*, Oxford/New York, pp. 199–222, here p. 209. Studies dedicated to the influence of colonial power relations on collecting practices and the presentation of collected objects in the museums of European colonial metropolises often refer to ethnological collections and museums, e. g. Penny, H. Glenn (2002): *Objects of Culture: Ethnology and Ethnographic Museums in Imperial Germany*, Chapel Hill. The *Tropenmuseum* in Amsterdam, founded in 1910 as the *Koloniaal Museum*, has addressed its colonial and postcolonial entanglements in an institutional self-reflection: Dijk, Janneke van; Legêne, Susan (2011) (Eds): *The Netherlands East Indies at the Tropenmuseum: A Colonial History*, Vol. 1, Amsterdam. For a prominent example of a natural history collection see Cornish, Caroline (2013): *Curating Science in an Age of Empire: Kew's Museum of Economic Botany*, PhD. Royal Holloway, University of London.
- 3 Barringer, Tim (1998): "The South Kensington Museum and the Colonial Project", in: Tim Barringer, Tom Flynn (Eds): *Colonialism and the Object: Empire, Material Culture and the Museum*, London, pp. 11–27, here p. 11. On two of the leading museums in Berlin and their colonial entanglements cf. Heumann, Ina; Stoecker, Holger et al. (2018) (Eds): *Dinosaurierfragmente. Zur Geschichte der Tendaguru-Expedition und ihrer Objekte, 1906–2018*, Göttingen; Kaiser, Katja (2021): *Wirtschaft, Wissenschaft und Weltgeltung. Die Botanische Zentralstelle für die deutschen Kolonien am Berliner Botanischen Garten und Museum Berlin (1891–1920)*, Berlin.
- 4 Cf. Müller-Wille, Staffan (1999): *Botanik und weltweiter Handel. Zur Begründung eines natürlichen Systems der Pflanzen durch Carl von Linné (1707–78)*, Berlin; Endersby, Jim (2008): *Imperial Nature: Joseph Hooker and the Practices of Victorian Science*, Chicago; On "linguistic imperialism" as a "politic of naming that accompanied and promoted European global expansion and colonisation" cf. Schiebinger, Londa L. (2004): *Plants and Empire: Colonial Bioprospecting in the Atlantic World*, Cambridge, Mass., p. 195; on Linnaeus and race see <https://www.linnean.org/learning/who-was-linnaeus/linnaeus-and-race>, accessed 10 March 2023.
- 5 An introduction with a transdisciplinary approach is provided by Förster, Larissa (2016): "Problematische Provenienzen. Museale und universitäre Sammlungen aus postkolonialer Perspektive", in: Deutsches Historisches Museum (Ed.): *Deutscher Kolonialismus. Fragmente seiner Geschichte und Gegenwart*, *Ausst.-Kat. Deutsches Historisches Museum Berlin*, Darmstadt, pp. 154–161; with a focus on zoological/ palaeontological collections see Heumann and Stoecker, 2018, *Dinosaurierfragmente*; on the entanglement of collecting and slavery cf. Delbourgo, James (2017): *Collecting the World: The Life and Curiosity of Hans Sloane*, Cambridge Mass.; Ashby, Jack; Machin, Rebecca (2021): "Legacies of Colonial Violence in Natural History Collections", in: *Journal of Natural Science Collections*, Vol. 8, pp. 44–55; for botanical collections recently Kaiser, 2021, *Wirtschaft*; Keogh, Luke (2020): *The Warden Case: How a Simple Box Moved Plants and Changed the World*, Kew.
- 6 Masemann, Bronwen (2009): "Power, Possession and Post-modernism: Contemporary Readings of the Colonial Archive", in: *Faculty of Information Quarterly*, Vol. 1, no. 1, on <https://tspace.library.utoronto.ca/bitstream/1807/78433/2/15464-37625-1-PB.pdf>, accessed 10 March 2023; Stoler, Ann Laura (2002): "Colonial Archives and the Arts of Governance", in: *Archival Science*, Vol. 2, no. 1–2, pp. 87–109. Lynn Nyhart points out that natural history collections, especially in the "central museums", are comparable to other state archives, see Nyhart, Lynn K. (2009): *Modern Nature: The Rise of the Biological Perspective in Germany*, Chicago, pp. 241f.
- 7 <https://www.museumfuernaturkunde.berlin/en/about/the-museum/colonial-contexts>, accessed 10 March 2023.

- 8 German Museums Association (2021) (Ed.): *Guidelines for German Museums: Care of Collections from Colonial Contexts*, Berlin.
- 9 <https://www.museumfuernaturkunde.berlin/en/science/guidelines-dealing-natural-history-collections-colonial-contexts>, accessed 10 March 2023.
- 10 On dehistoricisation through the ordering of the collection cf. Stewart, Susan (1993): *On Longing: Narratives of the Miniature, the Gigantic, the Souvenir, the Collection*, Durham/London; Heumann, Ina (2013): "Zeiträume. Typologie naturwissenschaftlicher Sammlungen", in: *Trajekte. Archive der Natur*, Vol. 27, no. 14, pp. 19–23.
- 11 Ohl, Michael; Stoecker, Holger (2018): "Taxonomien am Tendaguru. Wie die Berliner Saurier ihre Namen bekamen", in: Heumann and Stoecker, 2018, *Dinosaurierfragmente*, pp. 232–253; Ohl, Michael (2015): *Die Kunst der Benennung*, Berlin. On Lettow-Vorbeck cf. Bley, Helmut (2008): "Gutachten über Paul Von Lettow-Vorbeck", in: *Hannoversche Geschichtsbätter*, Vol. 62, pp. 169–188; Schulte-Varendorff, Uwe (2006): *Kolonialheld für Kaiser und Führer. General Lettow-Vorbeck – Mythos und Wirklichkeit*. Berlin.
- 12 Jennifer R. Morris (2021): "Non-Western Collectors and their Contributions to Natural History, c. 1750–1940", in: Goss, Andrew (Ed.): *The Routledge Handbook of Science and Empire*, pp. 87–96; Das, Subhadra; Lowe, Miranda (2018): "Nature Read in Black and White: Decolonial Approaches to Interpreting Natural History Collections", in: *Journal of Natural Science Collections*, Vol. 6, pp. 4–14.
- 13 Cf. Berner, Margit; Hoffmann, Anette; Lange, Britta (2011) (Eds): *Sensible Sammlungen. Aus dem anthropologischen Depot*, Hamburg.
- 14 This is documented by ongoing oral history studies conducted with the local population in the excavation region by Musa Sadock and Halfan Magani, cf. Magani, Halfan H.; Sadock, Musa (2021): "Siasa na Uchumi Kuhusu Dinosaria mwa Tanzania. Utafiti kwa Nija ya Masimulizi Katika Eneo la Tendaguru", in: Heumann, Ina; Stoecker, Holger et.al. (Eds): *Vipande vya Dinosaria. Historia ya msafara wa kipaleontolojia kwenda Tendaguru Tanzania 1906–2018*, Dar es Salaam.
- 15 <https://www.cbd.int/>, accessed 10 March 2023.
- 16 Schönberger, Sophie (2019): "Die Säule von Cape Cross und das Völkerrecht", in: *Historische Urteilskraft*, Vol. 1, pp. 28–31; also Thielecke, Carola; Geißdorf, Michael (2021): "Sammlungsgut aus kolonialen Kontexten. Rechtliche Aspekte", in: German Museums Association, 2021, *Guidelines*, pp. 159–170.
- 17 *ICOM Code of Ethics for Natural History Museums*, 2013, p. 6; https://icom.museum/wp-content/uploads/2018/07/nathcode_ethics_en.pdf, accessed 10 March 2023.
- 18 Kaiser, Katja et.al.(2023): "Promises of mass digitisation and the colonial realities of natural history collections", in: *Journal of Natural Science Collections*, Vol. 11, pp. 13–25.
- 19 Lichtenstein, Hinrich (1816): *Das Zoologische Museum der Universität zu Berlin*, Berlin, p. 9.
- 20 Cf. Kaiser, 2021, *Wirtschaft*, pp. 314–319; Lustig, Wolfgang (1988): "'Außer ein paar zerbrochenen Pfeilen nichts zu verteilen...'" – Ethnographische Sammlungen aus den deutschen Kolonien und ihre Verteilung an Museen 1889–1914", in: *Mitteilungen aus dem Museum für Völkerkunde Hamburg*, Vol. 18, pp. 157–178; Schindlbeck, Markus (2012): *Gefunden und verloren: Arthur Speyer, die dreißiger Jahre und die Verluste der Sammlung Südsee des Ethnologischen Museums Berlin*, Berlin; Hoffmann, Beatrix (2012): *Das Museumsobjekt als Tausch- und Handelsgegenstand. Zum Bedeutungswandel musealer Objekte im Kontext der Veräußerungen aus dem Sammlungsbestand des Völkerkundemuseums Berlin*, Berlin; Lang, Sabine; Nicklisch, Andrea (2021): *Den Sammlern auf der Spur: Provenienzforschung zu kolonialen Kontexten am Roemer- und Pelizaeus- Museum Hildesheim 2017/18*, Heidelberg: arthistoricum.net.

- 21 Historische Bild- und Schriftgutsammlung des Museums für Naturkunde Berlin, <https://www.museumfuernaturkunde.berlin/de/wissenschaft/archiv>, Bestand HBSB ZMS_II_ "Deutsche Schutzgebiete".
- 22 On Zenker cf. Kaiser, Katja (2018): "Sammelpraxis und Sammlungspolitik. Das Beispiel Georg Zenker", in: Patricia Rahemipour (Ed.): *Bipindi – Berlin. Ein wissenschaftshistorischer und künstlerischer Beitrag zur Kolonialgeschichte des Sammelns*, Berlin, pp. 7–46.
- 23 Cf. Buschmann, Rainer; Heumann, Ina; McKinney, Anne (Eds): "The Issue of Duplicates", in: *British Journal of the History of Science*, Vol. 55, no. 3.
- 24 See <https://www.gbif.org/>, accessed 10 March 2023.
- 25 See <https://de.bionomia.net/>, accessed 10 March 2023.
- 26 See <https://de.bionomia.net/Q103473/deposited-at>, accessed 10 March 2023.
- 27 See <https://www.museumfuernaturkunde.berlin/en/future/future-plan> and <https://www.museumfuernaturkunde.berlin/en/science/collector-edit-a-thons-museum-fur-naturkunde-developing-innovative-formats-participatory>, accessed 10 March 2023.

