Oxford University Museum of Natural History

Annual Review

2022-23

Museum of Natural History

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The Oxford University Museum of Natural History Annual Review 2022-23 was compiled from reports supplied by members of staff

Photographs are by members of Museum staff unless otherwise stated

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Cover image: *Life, As We Know It* redisplay © David Fisher

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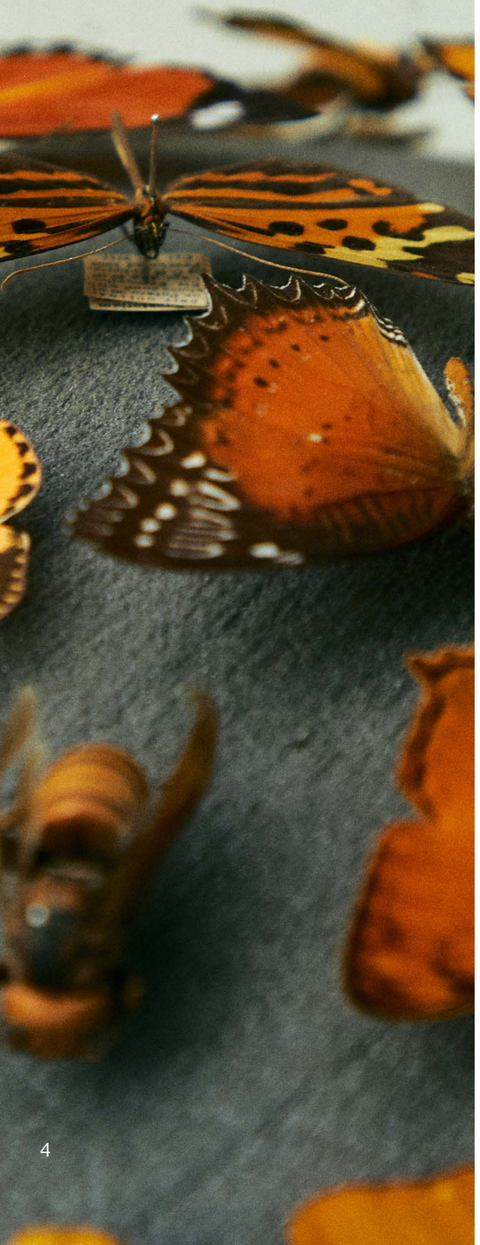


Tree of Life *display © David Fisher*

The 2022-23 academic year saw a return to something like normality after two years of intense disruption. Visitor numbers returned from the low of 42% in the first year of the pandemic to 92% of their high-water mark in 2018-19, with the associated growth of donations and commercial income re-stabilising the Museum's finances – notably, in 2022-23, the museum surpassed £1m of commercial income for the first time in its history.

A number of major projects that had commenced during the previous two years were also able to accelerate to full speed. From a visitor's perspective, the most conspicuous change was the completion of the second phase of the Museum's redisplay project, *Life, As We Know It*. This saw the completion of 20 large new displays in 10 new display cases lining the centre aisle of the court.

The centre aisle works hard for the Museum. In the mornings it may host up to 100 primary school students; in the afternoons these are replaced with general visitors seeded with undergraduate groups; and after the Museum closes, the space is often rapidly converted for receptions or formal dinners. The new displays are designed to cater for all of these audiences. They are also designed to have a high visual impact that echoes the design origins of the Museum at the interface between science and Pre-Raphaelite art. Feedback from visitors suggests we have been overwhelmingly successful in these aims.

In the narrow aisles to either side, the displays examine topics in more detail, but still in a way that is accessible to a wide variety of audiences. To the north, the displays examine the processes of evolution, and are tightly linked to educational curricula in a visually beautiful way. To the south, the equivalent aisle examines Earth systems – in essence, 'how the Earth works'. This has enabled the Museum to examine a number of areas that were not covered by the old displays, including black smokers and planetary evolution.

Rather than contracting out the redisplay work to external consultants, the project has been a team effort that draws on skills and talents from right across the Museum working with our designers, Easy Tiger Creative. Each row of cases had a design team that drew staff from across Collections, Research and Public Engagement whilst the installation would not have been possible without the Operations team. No sooner had Phase 2 been completed than Phase 3 commenced, replacing a further six cases on the north side of the court and installing new displays on evolutionary processes and modern-day ecosystems. The work is due to be completed in April 2024 so watch this space, quite literally.

At the same time, the Museum was completing its most ambitious externally funded project to date – *HOPE for the Future*. As detailed in the previous annual review, *HOPE for the Future* was a £1.3m project underpinned by a generous £700k grant from the National Lottery Heritage Fund, and which wove together three strands. The first was the conservation and rehousing of the 1.1 million specimens in the British Insect Collection; the second was an ambitious outreach programme; and the third was the restoration of the Pre-Raphaelite decoration of the Westwood Room. This latter phase was completed early in the academic year. When the building opened in 1860, the room was a museum within the Museum, housing and displaying the Hope Entomological Collection. The designer and decorator was Joseph Swan, an associate of the Pre-Raphaelites who also helped Dante Gabriel Rossetti, Edward Burne-Jones and William Morris decorate the Oxford Union. The room is now restored to its original, and spectacularly blue, colour scheme and is in constant use for teaching, evening lectures, dinners and conferences.

The very wide range of other activity across the year in the Museum is documented throughout this review, and illustrates that OUMNH has well and truly returned to *Life, as we know it*.

Professor Paul Smith

Director

(overleaf) Struggle for Survival *within the new evolution displays © David Fisher*


Struggle for survival
To survive and reproduce, living things compete for crucial natural resources. The availability of food, mates, and space to live are all limited in any given habitat, so populations cannot increase endlessly.
Competition is a key driver of evolutionary change. When one group gains an advantage over another, their rivals must meet that challenge or seek out a different resource. The best equipped individuals are the most likely to succeed, reproduce and pass on their features to the next generation. Sometimes, the fight to get ahead can lead to partnerships between individuals or species. Cooperative relationships, such as between a flower and a pollinator, give both parties an advantage over their competitors.
Ongoing competition can cause traits and behaviours to become highly exaggerated over time, even leading to dramatic evolutionary races. The more intense the competition, the faster the species involved are likely to adapt, propelling relentless change in the struggle for survival.

Highlights

Displaying *Life, As We Know It*

Phase 2 of the Museum's ongoing redisplay project, *Life, As We Know It*, was completed in September 2022, bringing 20 brand new science-led displays to the main court. Thanks to support from FCC Communities Foundation, ten ageing display cabinets were replaced with state-of-the-art showcases built by Click Netherfield.

Life, As We Know It *redisplay © David Fisher*

The Museum team worked closely with exhibition design consultancy, Easy Tiger Creative, and setworks fabricators, The Workhaus, to create the new displays. Many hundreds of specimens, from tiny insects to an enormous Japanese Spider Crab to meteorites as old as the Earth, were brought together in aisles focusing on Biodiversity, Evolution, and the history of the Earth. The centre court celebrates biodiversity – the variety of life on Earth – with the Earth aisle immediately to the south and the Evolution aisle immediately to the north.

Hot on the heels of the Phase 2 installation, work began on Phase 3 to replace a further eight existing showcases and continue the thematic scheme. Generously supported once again by FCC Communities Foundation, as well as the DCMS/Wolfson Museums and Galleries Improvement Fund, Phase 3 will complete the Biodiversity and Evolution aisles and introduce six new displays to the north court looking at recent-day ecosystems and their dynamic processes.

Both phases of the project saw significant contributions from staff across the Museum and the wider University. Each aisle's displays were developed by a working group of members from Collections, Public Engagement, and Research; digital content was supported by the University's Public Affairs Directorate; and advisors were drawn from across the University's science departments. Internally, the overall project was managed by the Museum's Redisplay Project Managers.

Waste Land *installed within the Museum's upper gallery*

Waste Land

5 July – 20 November 2022

Waste Land was an exhibition of the aerial photography of American artist and climate activist, J Henry Fair. Featuring ground-breaking images of industrial waste, it exposed the environmental damage caused by mining, manufacturing, agriculture, and energy generation.

Open from 5 July until 20 November 2022, the exhibition encouraged visitors to confront the environmental consequences of industrial waste through arresting photographs which brought into focus the uncomfortable consequences of manufacturing and mass consumption. In total the exhibition was visited by 118,160 people.

Australian Repatriation

On 9 November 2022, Oxford University Museum of Natural History and the Pitt Rivers Museum held a ceremony to return the remains of eighteen ancestors to representatives of the Australian Government and the First Nations People of the South East.

Robyn Campbell leads the repatriation ceremony for Aboriginal and Torres Strait Islander Ancestors at the Pitt Rivers Museum © Oxford University Museum of Natural History/Pitt Rivers Museum

One ancestor from Lake Hawdon/Guichen Bay, South Australia, has been returned to the custodianship of the South East First Nations; and seventeen other ancestors were returned to Australia under the stewardship of the Australian Government, while further research is undertaken to determine their traditional First Nations custodians.

The ceremony was attended by the Australian Acting High Commissioner, Lynette Wood; the First Secretary Economic at the Australian High Commission, Nick Williams; and Assistant Director for Indigenous Repatriation for the Office for the Arts, Wendy Dalitz. Representing the sovereign and cultural interests of the First Nations People of the South East was Emerging Elder Robyn Campbell, Chief Executive Officer of Burrandies Aboriginal Corporation. The museums were represented by Museum Director, Professor Paul Smith, Head of Gardens, Libraries and Museums, Richard Ovenden OBE and Director of the Pitt Rivers Museum, Professor Laura Van Broekhoven.

The Museum repatriated the remains of six individuals, all of which were acquired in the 19th century as the University Museum, as it was then known, became a concentration of material culture collections. The remains of four of the individuals were acquired as part of larger acquisitions of medical, anatomical and anthropological teaching and research collections from other University departments and colleges, as well as externally. The remains of two individuals were donated directly to the Museum from individual donors.

Wallace Bicentenary

On the 8 January 2023, the world celebrated the 200th anniversary of the birth of Alfred Russell Wallace (1823-1913). Wallace was one of the leading evolutionary thinkers of the 19th century and is best known for independently developing the theory of natural selection concurrently with Charles Darwin.

Type specimen (dorsal and ventral views) of Omithoptera croesus, *or 'Wallace's Golden Birdwing', collected and described by A R Wallace 1859*

To celebrate such an auspicious occasion and to kick-start a year of activity across the natural history sector, the Museum, in conjunction with Maison Française d'Oxford, Alexandre Koyré Center (CNRS-EHESS-MNHN), and MSHS-Toulouse, hosted a one-day symposium. Interest in Wallace's work remains high, and staff were joined by researchers from the world over to discuss Wallace's findings and the work that is being undertaken to highlight their importance and relevance in a modern context. The Museum's Head of Life Collections presented on the significant holdings of entomological material that the Museum has, whilst the Museum's Librarian and Archivist shared treasures from the archive with delegates including Wallace's personal copy of a textbook on butterflies that had travelled with him to the Malay Archipelago on his 1854-1862 expedition.

Further work on the Museum's collections was undertaken during the year including the cataloguing and digitisation of the Wallace Archive. The collection consists of a variety of material ranging from newspaper clippings and letters to original illustrations of insects sent to Wallace by contemporary entomologists. The entire collection has been made available via Collections Online. The holdings within the entomological collections have been sorted to establish the different accession lots of material and documentation completed. Digitisation of this collection is on-going.

A selection of prints from the Buckland Archive

Buckland Archive

In February 2023, the Museum welcomed 'home' an important archival collection relating to pioneering 19th-century geologist and theologian, William Buckland (1784-1856). It is one of the largest purchases the Museum has ever made and was made possible with support from the National Heritage Memorial Fund, Arts Council England/the V&A Purchase Grant Fund, Friends of the National Libraries, the Headley Trust, and other private donors.

Passed by descent to the current owners, the archive contains over 1,000 items including letters, notebooks, family papers, prints, and artworks. Highlights include a watercolour by Thomas Sopwith depicting William Buckland (previously thought to be a portrait of Mary Anning), a rare coloured version of the lithograph based on Henry de la Beche's drawing *Duria Antiquior* (the first pictorial representation of a scene of prehistoric life based on fossil evidence), and two sketchbooks owned by Buckland's wife Mary, a talented naturalist and illustrator in her own right. It joins the Museum's existing Buckland archive, including his professional correspondence, lecture notes, and teaching diagrams as well as more than 4,000 fossil, rock, and mineral specimens.

The new archive will be conserved by a qualified paper conservator with support from The Helen Roll Charity and both the old and new archives will be catalogued following a successful Archives Revealed grant funded by the Pilgrim Trust, the Wolfson Foundation, and the National Archives. The archive will also feature heavily in 2024 as the Museum celebrates the 200th anniversary of the first scientific description of a dinosaur by William Buckland on 20 February 1824.

Connected Planet

8 February – 20 August 2023

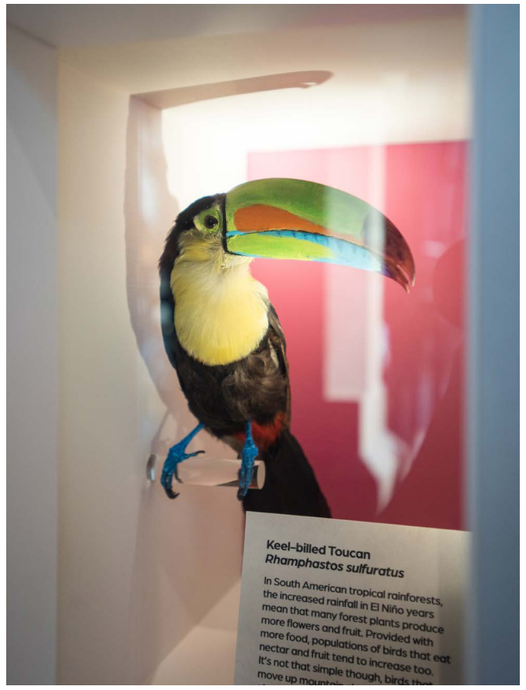
Connected Planet, the seventh exhibition in the Contemporary Science and Society series, opened at the Museum on 8 February 2023 and ran until 20 August. Based on the book *The Earth: A Biography of Life,* by Museum Researcher Dr Elsa Panciroli, the exhibition transported visitors through Earth's water, air and soil to glimpse some of the incredible natural networks that connect life on earth with their environments.

Diurnal vertical migration display in the Connected Planet *exhibition © John Cairns*

The specimen-rich exhibition had more animals from the Museum's collection than any other temporary exhibition in the series; displays included a hammerhead shark, porcelain teaching models of diatoms, 3D printed models of pollen grains, the inner ear bones of an orca, footprints cast from Mount St Helens elk, fossils of the first land plant, and a fossil sea scorpion that might have been caught up in the biggest mass extinction in Earth's history. A sea otter skull and a rare fossil of *Boltonites radstockensis,* an early dragonfly relative, were on loan from the Cambridge Museum of Zoology and the Sedgwick Museum of Earth Science respectively.

Connected Planet was seen by 274,119 visitors, around half of all visitors to the Museum, and feedback was overwhelmingly positive. The exhibition aimed to engage visitors with the complexity and beauty of the natural world, as told through specimens, and inspire feelings of awe and fascination. Whilst the Museum strives to be a place of discourse around the climate and biodiversity crisis, this exhibition focused on the positivity that is key to finding solutions in the face of catastrophe by revealing the resilience of nature and the value of working to protect the world that we still have.

Display showing adaptations to grassland within the Connected Planet *exhibition © John Cairns*



Keel-billed toucan in the Connected Planet *exhibition © John Cairns*

Adult public engagement events

6,775 adults attended events throughout 2022-23 across a range of public engagement formats, including events where the Museum aims to support, and build involvement in, local natural history groups. The Oxfordshire Mammal Group ran a winter lecture series featuring researchers from within the University and beyond, and the Museum helped to relaunch the Oxford Entomological Society by supporting a series of talks.

The Museum also held two large-scale Late Nights. *A Buzz in the Air*, delivered in partnership with Jericho Comedy, combined science and comedy around the *HOPE for the Future* project. The *Connected Worlds Late Night*, based around the Contemporary Science and Society *Connected Planet* exhibition, showcased research from other University departments and supported building the Museum's relationship with scholars from Reuben College who developed activities around their research using specimens from the collections.

Other events for adults included skills-based day schools, sessions for adults with special needs and older adults, the Conservation Optimism International Short Film Festival, and debates and talks by authors, conservationists, film makers and academics involved in exhibitions.

Programming also included several well-being events based on bird song, for the general public and for MPLS staff and students. Participants were invited to lay on the floor on yoga mats and watched the sun set through the glass roof while listening to the sounds of the dawn chorus and learning bird song identification.

Professor John Holmes as J R R Tolkien delivering the illustrated lecture, On Dragons and Dinosaurs

One innovative highlight was the reproduction of J R R Tolkien's original magic lantern illustrated lecture, *On Dragons and Dinosaurs*, given in its original form for the first time since 1938 by Professor John Holmes using Tolkien's original slides from the archives. This was followed by a panel discussion with celebrity author Sir Philip Pullman, and scientists Dr Will Tattersdill, Senior Lecturer in Popular Literature, Liberal Arts, and Natural Sciences at the University of Birmingham; Humma Mouzam, PhD student in Medieval Literature at the University of Birmingham; Dr Thomas Halliday, palaeo-biologist and author; and Dr Elsa Panciroli, palaeontologist, author, Museum Research Fellow. The event ended with attendees talking to Museum staff and inspecting material from the archives and collections linked to dragons and dinosaurs, as well as an opportunity to meet and talk to the panel.

Commercial and visitor income tops £1m

The Museum reached a major financial milestone this year, surpassing £1m in commercial and visitor income for the first time. This unrestricted income stream, made up of shop spend, venue hire, catering, visitor donations, group visit tickets and filming, accounts for 23% the Museum's overall income. Total commercial and visitor income grew from £755,000 in 2021-22 to £1,078,000 in 2022-23.

The Museum's main entrance arrival point

Primarily driven by the number of people visiting the Museum, these income streams were boosted by a continued bounce-back towards pre-pandemic audience levels, with 733,912 visitors across the year (in comparison to 801,521 in our busiest ever year). Local and UK audiences were particularly strong, with international visitors slower to return. Whilst a cost-of-living crisis hit UK visitors, careful pricing in the shop and café catered to every pocket, ensuring a steady stream of commercial revenue through these vital channels.

A combination of postponed events and new bookings drove venue hire income, which reached its highest ever levels, with an exceptional £342,000 in 2022-23 (in comparison to £232,000 in 2021-22). The Museum hosted a wide range of corporate events and parties, all whilst ensuring the safety and security of the building and collections. In addition to generating commercial income, several bookings, such as the Biology Society Ball, had a direct link to natural history. Others, such as an academic conference on UK floodplains, generated rich collaborations, with conference posters aimed at Museum visitors and craft activities designed for delegates repurposed as a weekend family offer.

Internships and bursaries

In 2020, the Museum committed to taking a proactive and innovative role in challenging established inequalities as well as inspiring and supporting diverse new generations of scientists through its summer placement programmes. These programmes, funded by the EPA Cephalosporin Fund and Carey Family, provide valuable early career experience for young people. Fifteen paid placements were offered across the following programmes:

- Oxford Summer Internship Programme – five placements for undergraduates at Oxford University
- Undergraduate Bursary Scheme – six placements for undergraduates from across the UK from under-represented backgrounds
- Natural Science and Heritage Scheme – four placements for Oxfordshire sixth-form pupils from under-represented backgrounds

The Museum was delighted to be recognised as a Gold Standard Internship Host in 2023, reflecting its commitment to the Oxford Summer Internship programme, the quality of feedback from interns, and the success of its partnership with the Internship Office.

Development of the Young People's Programme

Natural Science and Heritage Scheme team members

The Museum encourages young people to be independent and follow their own interests in natural history, and for this to take place in a safe and supportive environment the Learning team devised a special Young People's programme. In 2022-23, this programme was extended to include activities for children as young as 10 years old.

Children between the ages of 10 and 14 can now take part in regular holiday activities. This offer was first piloted in 2022 during the HOPE for the Future project, funded by the National Lottery Heritage Fund, and is now an embedded feature of the Museum's programme for young people.

Additionally, the Museum's Natural History Investigator group offers a programme of Saturday activities for 14 to 16-year-olds. Young people meet others with similar interests and, over the course of eight weeks, the Learning team get to know the participants and tailor activities to their interests.

The regular Museum Youth Forum for 16 to 19-year-olds, provides an opportunity for relationships with the Museum to develop over the longer term and through a period when young people are planning for life after school.

Family activities developed and delivered by Natural Science and Heritage Scheme students

There are also two types of intensive placements for 17 and 18-year-olds. Both opportunities are skills-based and for small groups of young people that meet defined eligibility criteria:

- currently receive free school meals
- have been, or currently are, in care
- are young carers
- come from a low socio-economic background
- live in an area where relatively few people progress to higher education

The three-week Natural Science and Heritage Scheme focuses on public facing transferable skills, the scheme was piloted in August 2021 and is now embedded in the Young People's Programme.

Additionally, the Museum hosted six local school students for a two-week STEM research placement in August 2023. Three of the group applied for their place via the Nuffield Research Placement scheme, which targets students from low-income backgrounds and those who are the first in their immediate family to attend university.

During their placements, participants worked on a series of short specimen-based projects. This work was coordinated by the Museum's Learning team and supported by Researchers and Collection Managers.

STEM research placement students

STEM research placement students learning about Museum collections from Collections Manager (Earth), Dr Emma Nicholls

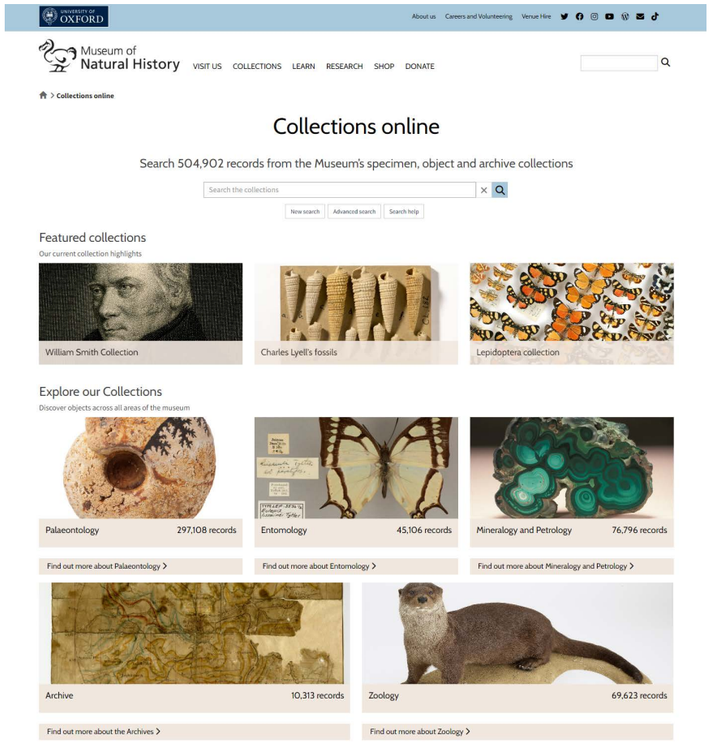
"The projects were really interesting and everyone we met was really passionate and engaging. This has made me more interested in natural history."

STEM research placement student

Collections

Enhancing Collections Online

Enhancing Collections Online was a Gardens, Libraries and Museum's (GLAM) Labs funded project to explore volunteer engagement around Collections Online. The Museum's Digital Collections Manager worked with a Volunteer Engagement Officer from the GLAM Volunteer Service to better understand user experience and shape potential volunteering opportunities around the discovery of collections through the Museum's Collections Online platform.



The home page of the Museum's Collections Online site

Areas where the user experience could be improved were identified from feedback from the Museum's Youth Forum, interviews with volunteers, and web analytics. One area involved the discovery of information about people associated with the Museum's collections. Reviews of digital volunteering and best practice across the heritage sector were carried out. The reviews were used to shape the development of a new pilot volunteer role to check, potentially add to, and highlight the historical biographical information presented on Collections Online about the hundreds of people associated with the collections. It proved popular, with around 60 applications, and commenced in Autumn 2023.

Dale Archive reorganisation and digitisation

James Charles Dale (1791-1872) was a pioneering English naturalist who devoted most of his life to entomology. Dale's specimens and extensive archive were bequeathed to the Museum in 1906 and the collection represents a unique historical record of the insect fauna of Great Britain and everyday life in the 19th century.

Dale was a prolific writer and the Museum archive holds his notebooks, manuscripts and around 6,000 letters from over 250 correspondents. This archive, often annotated by Dale in his own hand, is one of the most important historical legacies left by any British entomologist.

Notebooks and letters from the Dale Archive

Over a period of nearly six years, with the help of placement students, interns, and many volunteers, overseen by the Museum's Librarian and Archivist, Dale's entire correspondence was rehoused, reorganised and digitized. It was made available from July 2023 via Collections Online for researchers to access from anywhere in the world.

Librarian and Archivist, Danielle Czerkaszyn, with View of the Axmouth Landslip, *installed at the RWA, Bristol*

Loans of a Mary Buckland watercolour and portrait of John Phillips

Two artworks from the Museum's collection featured in exhibitions in 2022-23. Mary Buckland's artwork entitled, *View of the Axmouth Landslip*, 1840, sat alongside works by significant British artists including J M W Turner, John Constable and Thomas Gainsborough, at the Royal West of England Academy (RWA) in Bristol. In the final instalment of their element series on water, air and fire, the exhibition *Earth: Digging Deep in British Art 1781-2022* brought together historical, contemporary and modern works of art to examine how attitudes towards the landscape have evolved over the centuries and how artists' approaches have changed over time. The exhibition was open to the publicfrom 9 July to 11 September 2022.

The Museum also lent a portrait of its first Keeper, geologist John Phillips (1800-1874), facsimiles of several archive letters and two Lias belemnites to the Lyme Regis Museum as a part of their 2023 exhibition, *Mary Anning's Thunderbolts*, which opened on 29 April 2023. Exploring the amazing world of belemnites and other cephalopods, the exhibition highlighted palaeontologist Mary Anning, who sold belemnites to Phillips in 1835.

Installation of Museum specimens within the British Library exhibition, Animals: Art, Science and Sound

British Library exhibition loan, *Animals: Art, Science and Sound*

On 12 April 2023, insect specimens from the Museum's collections were installed in the British Library's temporary exhibition, *Animals: Art, Science and Sound*, which ran from 21 April -31 August 2023. An interesting selection of art, written manuscripts and sound recordings showed how nature has been documented through the centuries. Three large insect photographs by Levon Biss provided a colourful addition to the exhibition. These originally formed part of the *Microsculpture* exhibition held at the Museum during 2016-2017. Displayed alongside the photographs were the original specimens from the Museum's collection, including a shield bug collected by Charles Darwin during the voyage of the Beagle.

Curiouser and Curiouser: Dodo skeleton on tour

Following the loan to the V&A South Kensington's *Alice: Curiouser and Curiouser* exhibition in 2021, the Museum's composite dodo skeleton, part subfossil, part reconstruction, was one of the star exhibits in the international tour of the exhibition of the same name. The exhibition explored the origins, adaptations and reinventions of Alice's Adventures in Wonderland featuring objects inspired by the tale from fashion, theatre and literature to photography, prints and posters.

The skeleton flew the coop in January 2022 and travelled to venues in Beijing, Tokyo and Osaka where it was viewed by almost 200,000 museum-goers before finally returning home in March 2023. The specimen is now back on display in the main court of the Museum in the *Future in Our Hands* display case.

(opposite) The dodo composite on display in the Future Times Art Museum (U2 by UCCA), Beijing

Diptera Collection incorporation

In early 2023, work began to incorporate a large collection of Diptera, predominantly comprised of Palearctic species of the superfamily Oestroidea. This includes Botflies, Flesh flies, Blow flies and Bristle flies. The collection contained over 11,000 specimens and type specimens of 17 species, and has consequently greatly enhanced several areas of the Diptera collection. The arranged Calliphoridae has increased from 195 specimens representing 39 species up to 6,048 specimens representing 172 species. This is a 3001% increase in volume and 341% increase in diversity. The arranged Rhiniidae collection was just 15 specimens spanning seven species and now contains over 350 specimens representing 62 species. This is a 2186% increase in volume and 714% increase in diversity. The opportunity was taken to re-curate the existing material during incorporation and as a result, all of the world Oestroidea collection is arranged and labelled to a high taxonomic standard.

Calliphora ochracea *(Calliphoridae: Blowfly) as part of a recent donation incorporated into the Museum's collection*

An example of one of the specimens the Museum holds from Singapore, Helcyon smyrnensis *or White-throated Kingfisher*

SIGNIFY project team visit

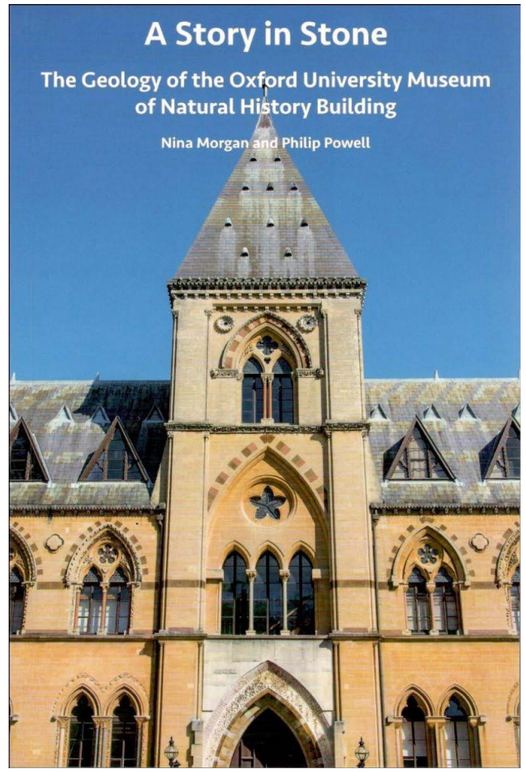
The Singapore in Global Natural History Museums Information Facility (SIGNIFY) is an initiative of the Lee Kong Chian Natural History Museum (LKCNHM) at the National University of Singapore. The project aims to digitise and document approximately 10,000 historically important specimens collected from Singapore over the last 200 years with a specific emphasis on type specimens. The entomological collections at the museum hold a small but significant collection of specimens, including material collected by Alfred Russell Wallace. The Museum hosted the project team from 13-17 March 2023 for a week of survey work, meeting colleagues and establishing workflows for future documentation efforts. It is expected that there will be a further month of work to digitise the material held at the Museum.

Insect Collection Managers' Group annual meeting

Currently chaired by the Museum's Head of Life Collections, the Insect Collection Managers' Group (ICMG) are a subject specialist network consisting of collections managers of the major insect collections in Britain and Ireland. All insect collection-holding institutions in Britain and Ireland with a dedicated entomology post are represented on ICMG, along with wider sector colleagues.

Each year, the group gathers for an in-person meeting hosted by one of the participant institutions, and in September 2022 the Museum was pleased to host the group for the first time in over a decade, and for the first in-person meeting since 2019. It was a well-attended and hugely enjoyable meeting, helping to re-establish important sector links as well as share the successes of the recently completed *HOPE for the Future* project.

The annual meeting of the Insect Collection Managers Group, within the Museum's Westwood Room © A. Whiffen



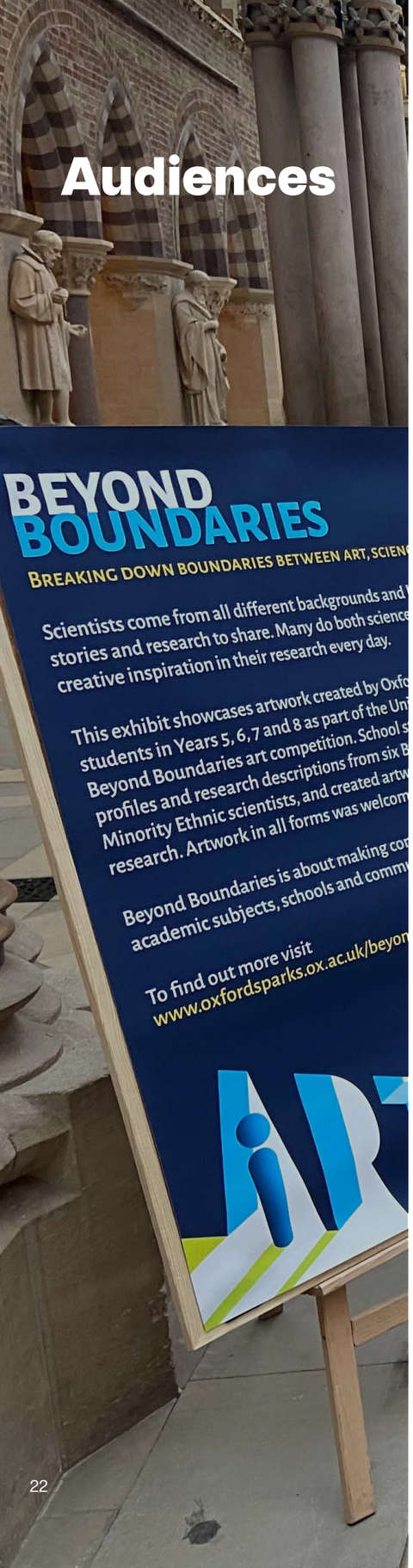
The front cover of A Story in Stone

Publication of *A Story in Stone*

After several years of research and compilation, in September 2022, Museum honorary associates Dr Nina Morgan and Philip Powell self-published their book, *A Story in Stone: The Geology of the Oxford University Museum of Natural History Building*.

The stated objective of the Museum building was to teach science, and its design was based on the idea that, 'no ornament should be employed which had no significance with reference to the object of the building.' This highly illustrated book, utilising original manuscripts and photographs from the Museum's Archive, highlights the key role geology played in achieving this goal.

Audiences



Members of the Public Engagement and Collections teams with skulls from the handling collection

Yorkshire Fossil Festival 2022

After a break over the pandemic, the Yorkshire Fossil Festival returned in person from 16-18 September 2022 and was bigger and better than ever. Colleagues from the Earth Collection and Public Engagement travelled to Scarborough with a Museum intern, taking fossil bones, teeth and coprolites, and a large handling collection to introduce festival goers to Yorkshire's famous 120,000-year-old hyena den, Kirkdale Cave. On Schools' Day, the team delivered taught sessions to ten primary school groups prioritised from economically disadvantaged areas. The open family weekend was busier than ever, and engagement with over 1,000 people was estimated. Visitors to the festival were amazed that Yorkshire was once home to hyenas, hippos, straight-tusked elephants and narrow-nosed rhinos.

"My mind is blown. That blows my mind"

Young visitor feedback

Meat the Future at the Food Museum

In June 2023, the Museum's award-winning *Meat the Future* exhibition opened at the Food Museum in Stowmarket. This Contemporary Science and Society exhibition was developed in partnership with the Livestock, Environment and People (LEAP) project, and aimed to show the impact of meat and dairy production and consumption on the environment.

Museum colleagues worked with LEAP and the Food Museum team to adapt the content and design to their contemporary gallery space and audience. Farming memorabilia was added to a larger section on agriculture and food production, to address the Museum's mission to connect people with where their food comes from and the impact of different food choices. A number of specimens were loaned from the Museum, along with set design elements, and the exhibitions iconic neon sign. The Food Museum was a fitting location for *Meat the Future* as it was able to offer tasting sessions and cooking demonstrations in an adjoining kitchen space. *Meat the Future* at the Food Museum ran from 22 June 2023 until 5 May 2024.

Meat the Future *at the Food Museum, Stowmarket*

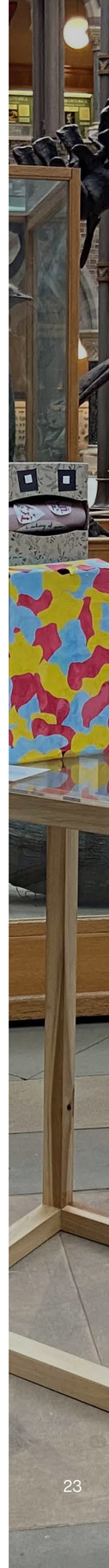
(above and top) Beyond Boundaries *exhibition*

Beyond Boundaries

29 June – 4 July 2023

Working with the Mathematical, Physical and Life Sciences Division at the University of Oxford, the *Beyond Boundaries* project and exhibition showcased artwork created by Oxfordshire state school students in Years 5, 6, 7 and 8. School students read profiles and research descriptions from six Black, Asian and Minority Ethnic (BAME) scientists from the University, and created artwork inspired by their research.

The project aimed to increase the visibility of Oxford's BAME scientists and mathematicians, bridge the perceived divide between science and art, and further connect schools and local communities with the University. The artwork was exhibited in the Museum from 29 June to 4 July 2023, with a reception for the students involved, hosted by the University's Chief Diversity Officer.



Museum of Climate Hope

The Museum of Climate Hope was a cross-GLAM project led by the Climate Education Lab in the School of Geography and the Environment in 2023. It is a digital and physical trail for educators and young people that showcases surprising, positive, solution-orientated climate stories and provides a platform for young people to share their own ideas of climate hope. This project supported the University's commitment to acting on climate change, and enhanced and broadened the reach of Museum displays.

One of the Youth Forum members involved in developing digital content for the Museum of Climate Hope project

Youth Forum members put together a shortlist of specimens to feature in the trail and worked together to develop stories to share. Two youth forum members were supported to produced audio content to include in the digital trail.

The partnership project included all six GLAM institutions, as well as the Rumble Museum at Cheney School, the TORCH Climate Crisis Thinking Network, the Future of Education and Training for the Climate Research Hub at the Department of Education, and the Oxford Schools Sustainability Network.

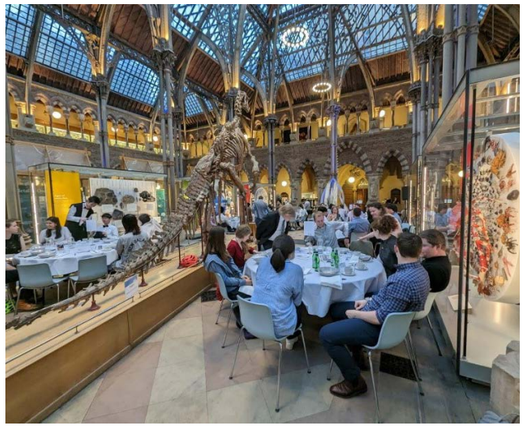
Presenting case containing obligate brood parasites; a specimen of the common cuckoo, Cuculus canorus*, and some of the species it targets.*

Presenting case

The Presenting case is a small case situated near the front desk of the Museum, the purpose of which is to show specimens and objects from across the Museum collections not usually on display. Since 2015, when the current case was purchased, the format has been to change the theme every two months, allowing for a vast range of content to be displayed to the public. In 2022-23 a number of displays were presented including letters from the Library and Archive on Alfred Russell Wallace, with entomology specimens, and on the history of the public displays. Life Collections put displays together on specimen conservation and on obligate brood parasites, focussing on cuckoos. Earth Collections celebrated the First International Geodiversity Day, covered the Geology of the Museum, and compared fossil shark teeth with those of modern ancestors.

Dining with Dinosaurs: Reuben College

Reuben College is the 39th College at Oxford, and its first cohort of graduate students started in 2021. Since the Radcliffe Science Library and Chemistry Teaching Laboratory building conversion was delayed, the Museum hosted the College on Thursday evenings for *Dining with Dinosaurs*.



A Reuben College Dining with Dinosaurs *evening*

Over the two years that these weekly dinners and discussions were held at the Museum, there were many memorable evenings, including a fantastic final dinner before the College moved into their new building in June 2023, appropriately titled 'end of an era or a new beginning?' about endings and new beginnings in deep time, history, and the future. Museum Researchers and Collections Managers spoke to students about subjects including research on early mammals, the end of the dinosaurs and what happened next, and the 17th century extinction of the dodo and why it became an icon of extinction. There was the opportunity to view specimens related to the talks, including the world's only dodo soft-tissue, and Jurassic mammal and dinosaur fossils.

Volunteers

The Museum had 187 active volunteers as of 31 July 2023, all recruited and managed by a central Gardens, Libraries and Museums team who monitor diversity and ensure that opportunities are advertised and recruited on an equitable basis.

Volunteers running object handling sessions for Connected Planet *© Ian Wallman*

A digital volunteering project on archival collections recruited both in-person and remote volunteers to transcribe material from the Museum archive, which is then uploaded to Collections Online. This has expanded the opportunities offered, as important parts of the workflow do not require onsite attendance. To date, 74 volunteers have transcribed 1,822 documents.

The family programme, from the regular Science Saturday and Family Friendly Sunday activities to half term activities, continues to be supported significantly by volunteers. Their contribution is invaluable, helping to welcome audiences and enable them to enjoy the Museum.

A family activity facilitated by volunteers © Ian Wallman

Family programming

Families remain a strategically important audience for the Museum. Between August 2022 and July 2023, the Museum held 137 family events, which over 20,000 children and adults took part in. Activities ranged from regular weekly and termly programmes to one-off larger events such as Super Science Saturday, which was linked to the *Connected Planet* exhibition. Museum Researchers and researchers from other University of Oxford departments, including Earth Sciences and Biology (WildCRU and Conservation Optimism), designed and delivered activities for family visitors.

The Museum continues to work to make family activities as accessible as possible to a wide range of families. Autism Friendly Early Openings have been held since 2018 and the Museum is working to extend its programme of Autism-friendly activity to help families who cannot get to the Museum for 9am. On 1 April 2023, the Museum ran its first Autism Friendly Science Saturday session in the Annexe. Science Saturday sessions take place in the Museum's Main Court on a Saturday afternoon, one of the busiest times of the week. The sessions have been running for just over a decade and are very popular with visitors. The activities focus on helping children to develop scientific skills and investigation and use real specimens to do this. To run the sessions a team of regular Science Saturday volunteers were trained in how to support families during these sessions.

"You're doing something really wonderful for autistic children and their families. I can't tell you how much we appreciate it."

"Thank you for arranging this, it was excellent. The calmer environment and reduced number of people meant [my child] was able to enjoy the space and interact with the objects in a meaningful way."

Parent feedback

Supporting Public Engagement with Research: DNA workshops

Between August 2022 and July 2023, the Museum ran 27 DNA workshops; more than any year since workshops began in 2011.

The five-hour workshop provided an opportunity for state school students to carry out practical techniques that are used extensively in a wide variety of research fields. In order to provide capacity to run more workshops, the Museum employed a team of early-career researchers to lead and support the workshops.

DNA workshop participants analysing results

This Public Engagement with Research (PER) opportunity was highly valued and many researchers spoke positively about the opportunity to reflect on their work and share their expertise with young people. School students and teachers enjoyed the opportunity to speak to experts about the research environment as well as the applications of the techniques covered in the workshop.

Working collaboratively with University departments and supporting researchers in this way was a positive development of a well-established school programme. Apart from building capacity and adding a new dimension to the workshop, it raised the profile of the Museum and extended engagement networks in the wider University.

The Great Debate

The 2023 Great Debate was organised in partnership with the Leverhulme Centre for Nature Recovery. For several months leading up to the debate, a very public online argument had been fermenting between two authors and environmentalists, George Monbiot and Allan Savory, on their opposing standpoints on the ability of livestock grazing to mitigate climate change.

On 11 July 2023, under the title, 'Is Livestock Grazing Essential to Mitigating Climate Change?', and chaired expertly by Professor Dame E.J. Milner Gulland, the Museum's Lecture Theatre filled with 300 attendees, who demonstrated through their questions how emotionally charged issues around land use, food choices, farming and climate change can be, and how deeply held views are amongst the general public. The debate was also livestreamed, attracting an online audience of around 7,000 viewers from around the globe and has since then, at the time of writing, been viewed some 56,000 times on the Museum's YouTube channel.

Left to right: George Monbiot, Dame E.J. Milner-Gulland, and Allan Savory

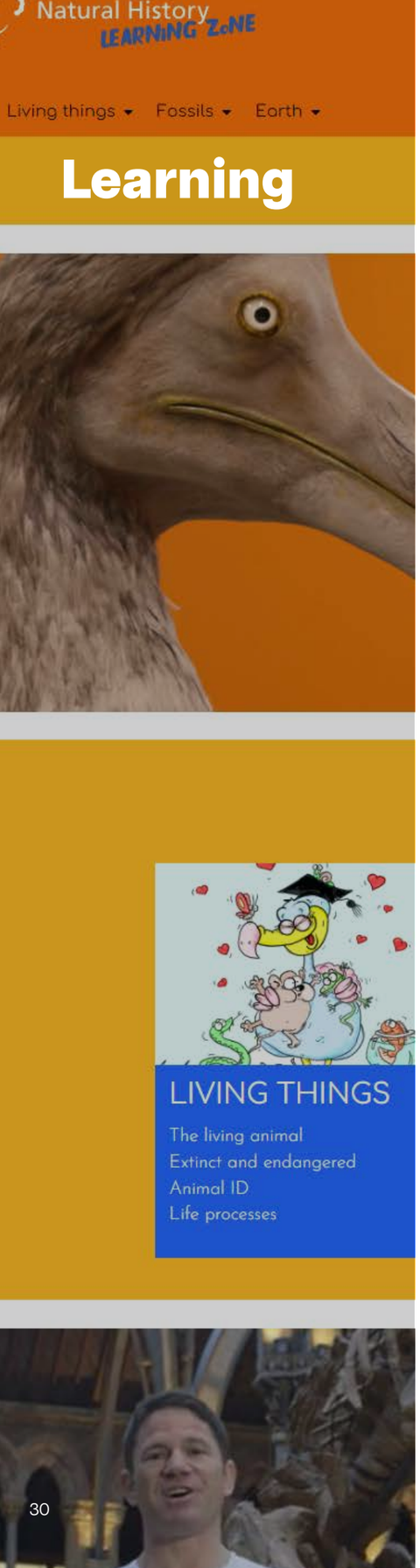
The beehive following installation of the new colony

Museum beehive

The Museum's beehive has been a much-loved feature for many years and in 2016 a new observation hive was designed and installed in what is now the Ellen Hope Gallery. This hive allows the public to view bees behaving naturally, from worker bees bringing in pollen to the queen bee laying eggs. It is a self-sustaining hive, with little intervention from staff, except for during the winter months when their resources are limited and they are provided with sugar for added sustenance.

In 2019, due to limited staff access and building works during the Covid-19 pandemic, the bees were returned to a local beekeeper to spend their time making honey under the spreading branches of an orchard. Following a refurbishment of the hive, and retaining a new beekeeper, we welcomed our bees back to the Museum in July 2023.

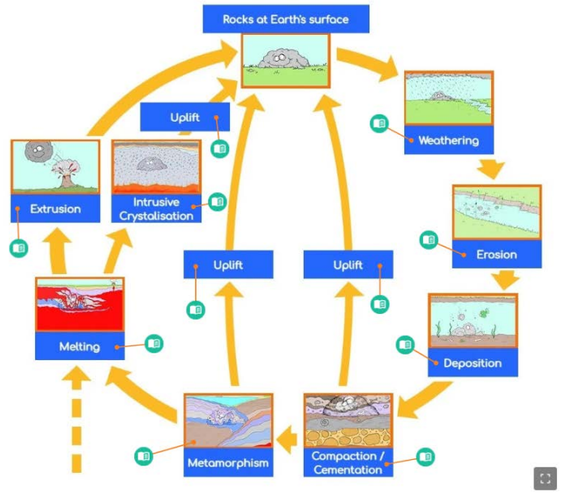
(opposite) A Life Collections Manager Life working with the Museum Beekeeper to install the new colony



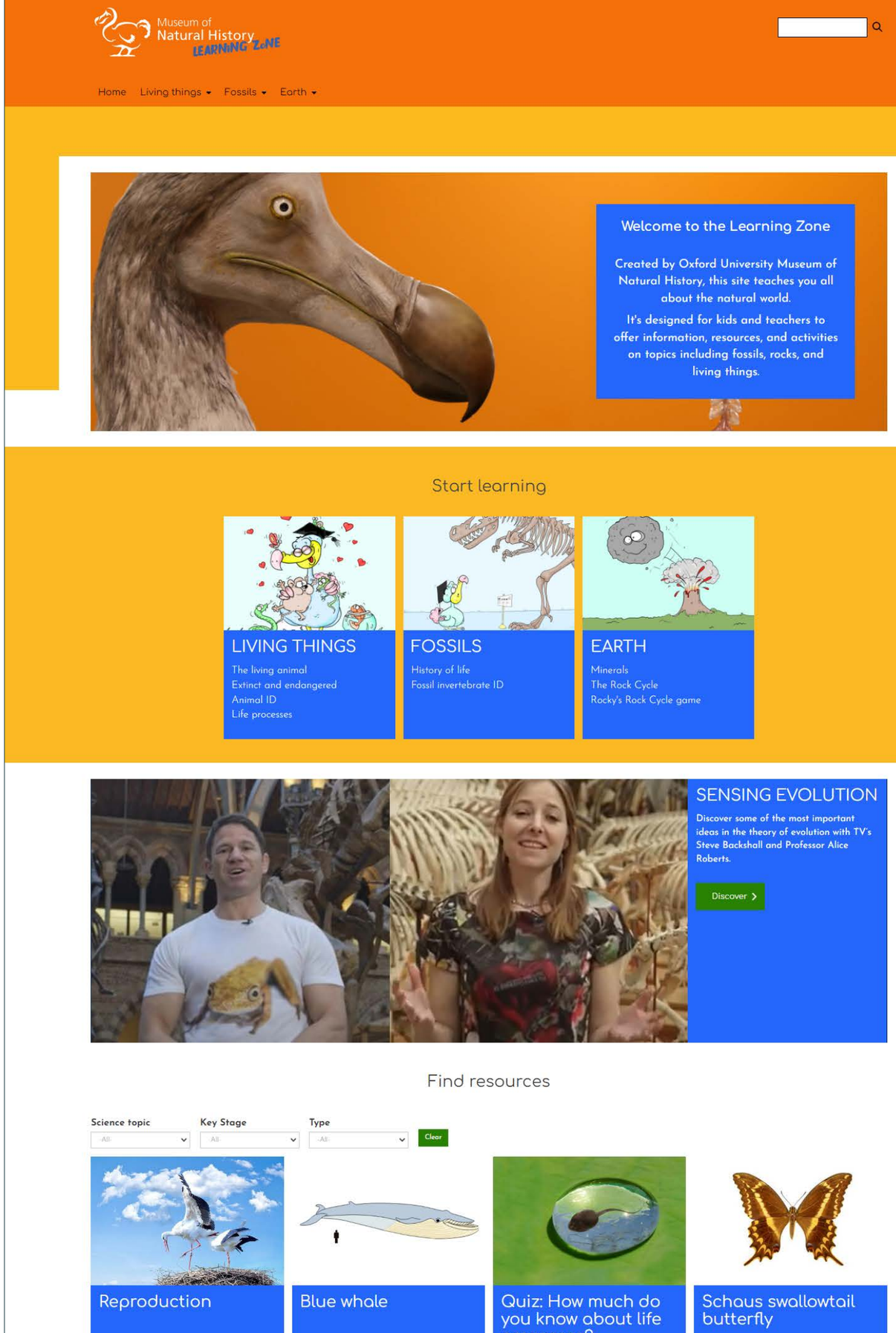
Redevelopment of the Learning Zone

The Museum's Learning Zone website, an educational resource for teachers and pupils, predominantly aimed at Key Stage 2 level, has long been the most visited site run by the Museum. However, its original build had become visually dated, and it lacked a content management system (CMS), making the site difficult to update or maintain.

A project was initiated with University IT Services to bring the Learning Zone up to date with the Museum's main website, which had recently relaunched on the University's proprietary Mosaic CMS. Hundreds of pages were assessed, the structure rationalised, and the visual identity overhauled to create a new Mosaic-based Learning Zone that can be maintained and expanded by the Museum's Learning team. The site relaunched in October 2022 and received 1.3 million page views during the year.



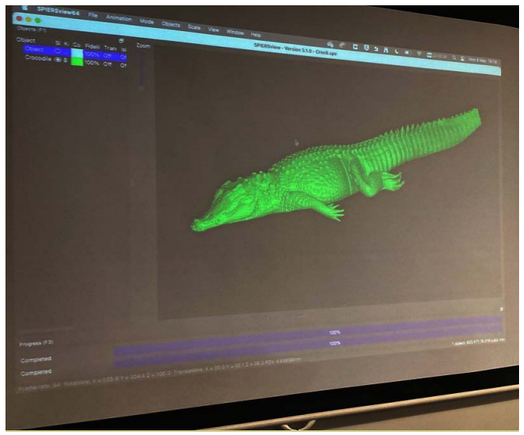
(above) Interactive content explaining the rock cycle
(opposite) The Museum's Learning Zone website



Biology undergraduates created 3D models from photographs of the dinosaur footprints on the Museum lawn

Digital Morphology skills course

In May 2023, and for the third consecutive year, the Museum welcomed undergraduate students from the University's Biology Department for a two-week intensive course on Digital Morphology as part of their second year BioSkills unit. Convened by the Museum's Senior Researcher and NERC Independent Research Fellow, and a Museum Collection Manager, the course consisted of a week of lectures and practical classes covering a variety of methods for the acquisition, processing and analysis of virtual representations of the morphology of extinct and extant organisms. This was followed by a week in which the students gathered and analysed their own data to test a hypothesis. As ever, the students rose to the challenge, tackling questions as diverse as 'what did dinosaurs eat?', 'how far could ancient birds fly?', and, 'can a bee's wing reveal its ancestry?'



Biology undergraduates cut their teeth by rendering a Nile crocodile in 3D

Turing patterns on molluscan shells

Biochemists in the building

In February 2023, the Museum welcomed a new course to its teaching programme, 'The Evolution of Evolution'. In order to give first year Biochemistry students a taste of specimen-based research, Museum colleagues worked with Associate Professor Peter Sarkies to develop a new session exploring evolutionary developmental biology case studies.

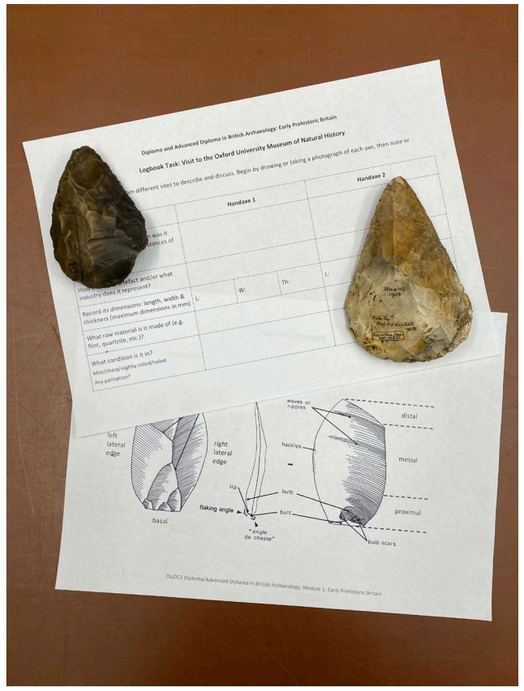
Following a lecture tracing the history of evolutionary thought in the biological sciences, students visited several stations around the Museum to talk to Museum experts about how the first animals changed the planet; cephalopod limb development through time; turing patterns in mollusc shells; human inherited abilities; reconstructing growth and development in early animals; and evo-devo of multisegmented antennae-like tarsi in Mesozoic insects.

Undergraduate teaching in key biodiversity skills

For the third consecutive year, the Life Collections Department ran the second year Oxford University Biological Sciences two-week skills course, 'From Field to Museum'. The course is designed to give students hands-on experience, as the course title suggests, from trapping and surveying skills in the field through to the preservation, identification and curation of entomological specimens.

Specimens of Aphantopus hyperantus, *aka Ringlet, that students investigate the data from to map collection biases*

The course is supported by talks on a range of topics including a brief history of natural history, biases and limitations of museum biodiversity data, how to access and use museum collections and how to find, interpret and use aggregated biodiversity data. Students are assessed on the skills they gain through a research poster on a topic relating to data mining and analysing museum data sets or experimental field collecting techniques and analysis.



Objects and worksheets from the Palaeolithic tools day school

Day schools on the Paviland burial and palaeolithic tools

In October 2022 the Museum ran a collaborative day school with the Department of Continuing Education on Palaeolithic stone tools, which formed part of Continuing Education's Undergraduate Diploma in British Archaeology. This attracted a very diverse audience, from individuals with years of field experience to absolute beginners, and the interactive nature of the session meant that students learnt a lot from each other as well as the tutor and the Museum facilitator. This was followed in February 2023 by a day school on the 'Red Lady' of Paviland, which involved a morning of lectures followed by a chance to view the skeleton and associated artefacts and to handle Pleistocene mammal bones from other sites contemporaneous with the burial. The participants' excitement at seeing the 'Red Lady' for themselves, and being able to handle real specimens and artefacts, was very evident, and many remarked on how much they had gained from the experience.

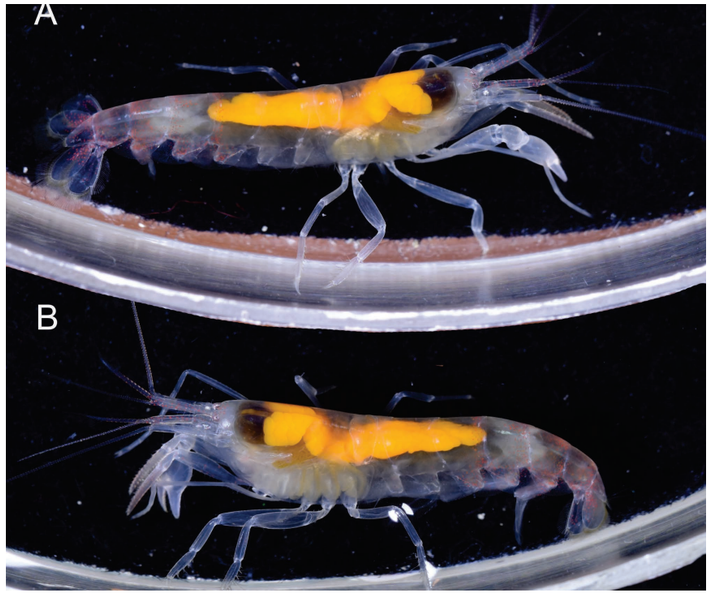
Underrepresented groups and schools

During 2022-23 the Museum engaged with more than 2,500 school students in more than 100 sessions specifically for students from under-represented groups. This was mainly by supporting the widening participation work of Oxford University College Access Officers. The Museum also worked directly with local target schools such as Iffley Academy, a community special academy for children and young people with complex special educational needs and disabilities. The Museum organised science, nature and career sessions specifically for the students.

In one longer-term project, students at Iffley Academy co-curated a museum case in their school, themed around British insects. They were supported by a HOPE for the Future Project Learning Officer, and a Museum Exhibition Officer. The case was re-displayed in the Museum in the second half of the academic year and students celebrated by visiting the case with their families.

(opposite) A case installed in the Museum, co-curated by Iffley Academy students

Research



An example of a recently described decapod, a ca. 2 cm long female of the alpheid shrimp Automate arturi *(Taken from Ashrafi & De Grave, 2003 in Crustacean Research; DOI: 10.18353/crustacea.52.0_79)*

Decoding the Decapoda

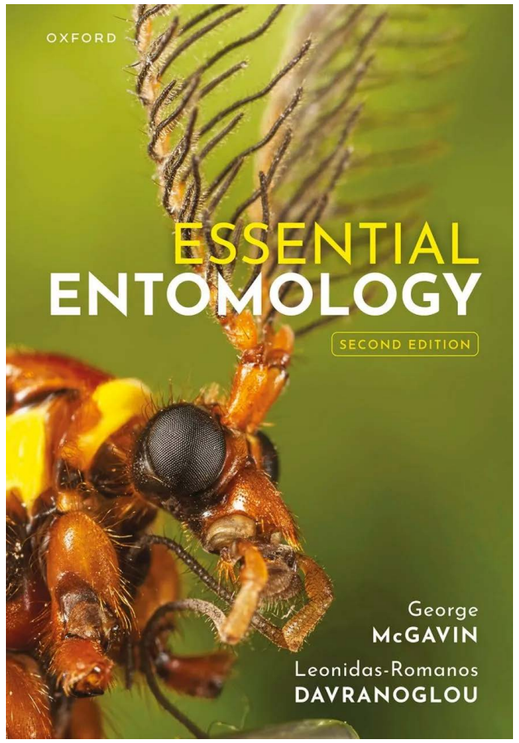
Senior Researcher, Dr Sammy De Grave, was part of an international team of researchers which estimated with unprecedented accuracy the described biodiversity of decapod crustaceans – the group including crabs, lobsters, and shrimp. After Linnaeus' 10th edition of *Systema Naturae* in 1758, assessments on the hitherto known decapod diversity had relied on estimations. This time, the authors were able to gain more accurate results using records of described decapod species from a dataset they curate, which is maintained at DecaNet, an online platform integrated within the World Register of Marine Species (WoRMS).

A total of 17,229 species in 2,550 genera and 203 families were tabulated as valid as of 31 December 2022. The authors also distinguished global phases in species description linked to major historical and geopolitical contexts. The current rate of decapod species description has increased threefold since Victorian times, although a significant number of species still await discovery.

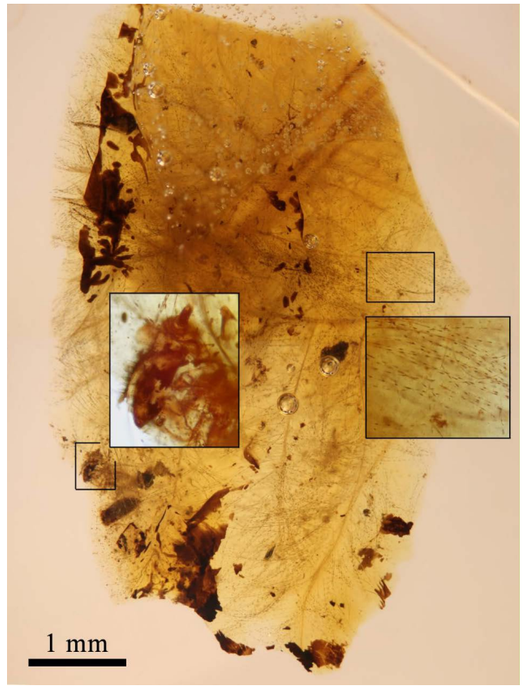
Entomologically essential

The second, fully revised edition of *Essential Entomology* (Oxford University Press), authored by Leverhulme Trust Early Career Fellow, Dr Leonidas-Romanos Davranoglou, and Museum honorary associate, Dr George McGavin, was published in January 2023, more than 20 years after its first edition.

The book represents an accessible introduction to entomology for anyone interested in the natural world, although undergraduate students in biology, forestry, and agriculture will find it particularly valuable. The new edition, a signed copy of which was deposited in the Museum's Library, includes the latest developments in entomological research.



The front cover of Essential Entomology



Amber fragment from the Cretaceous of Spain containing the feather portions and beetle larval remains. (Modified from Peñalver et al. 2023 in PNAS; DOI:10.1073/pnas.2217872120)

Munching on feathers 100 million years ago

Research co-led by Dr Ricardo Pérez-de la Fuente, Deputy Head of Research at the Museum, and Dr Enrique Peñalver, from the Spanish National Research Council, revealed that beetles fed on the feathers of dinosaurs about 105 million years ago, showing a symbiotic relationship of one-sided or mutual benefit. Amber fragments from the Early Cretaceous of Spain preserved, in intimate contact, feather portions from an unknown theropod dinosaur, perhaps an early bird, and beetle larvae remains. The latter were identified as closely related to modern skin beetles, or dermestids. Dermestid beetles are infamous pests of stored products or dried museum collections, feeding on organic materials that are hard for other organisms to digest. But dermestids also play a key role in recycling organic matter in the natural environment, often inhabiting bird or mammal nests where feathers, hair, or skin accumulate. The fossils show that symbiotic relationships comparable to those of modern birds and feather-feeding beetles existed between their Cretaceous ancestors.

Overview of Farm Aar Geo Park in southern Namibia, where some of the fieldwork took place © Elias Rugen

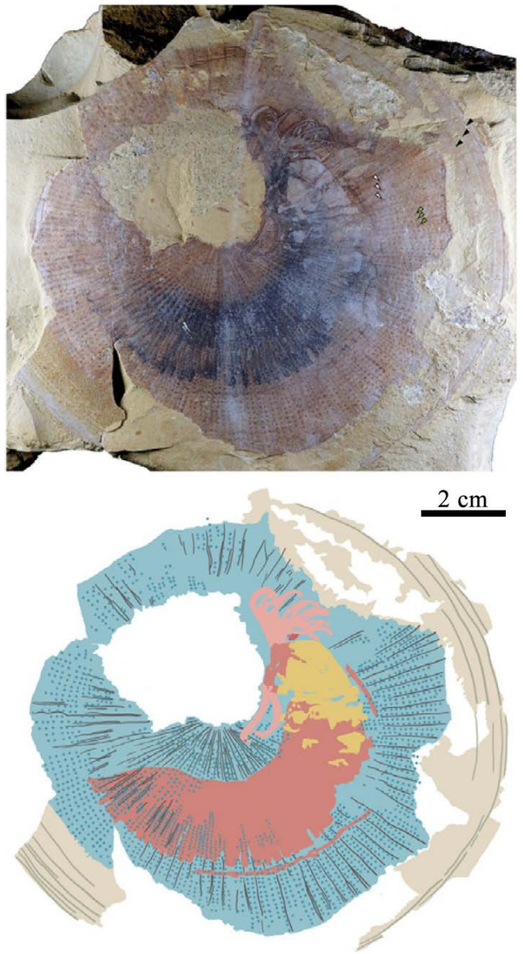
Fieldwork on the earliest animal reefs

Senior Researcher and NERC Independent Research Fellow, Dr Frankie Dunn, along with honorary associate Dr Imran Rahman, visited Namibia in August 2022 to study fossils which record the diversification of animal life in ancient oceans more than half-a-billion years ago. They travelled to the Namib desert in the south of the country to explore the rocks, and camped in several beautiful spots including the eponymous Zebra River where they were woken repeatedly by several zebra who treated the camp like an obstacle course! They explored the earliest animal reefs, which are made of shelly debris today but were once constructed of tiny tube-dwelling creatures, the debris records an escalating complexity in animal behaviours in the form of trace fossils. These animals lived at a critical time in earth history, when the planet was tipping from the default microbially-dominated world into one dominated by animals, setting the stage for the subsequent 500 million years.

Drs Dunn and Rahman comfortably examining a potentially fossiliferous surface © Elias Rugen

New light on an old relative

Dr Frankie Dunn and collaborators described exceptional new fossil material of an otherwise enigmatic animal called *Rotadiscus grandis* from the early Cambrian Chengjiang Biota of China, a UNESCO world heritage site. Their new fossils allowed them to confidently place R*otadiscus,* and related taxa, within the deuterostomes – the group of animals including us (chordates) and starfish. *Rotadiscus* show a chimeric combination of features from across the deuterostomes which proves, contrary to previous suggestions, that starfish evolved from a chordate-like ancestor and not the other way around. The results confirm that the integration of unique fossil anatomies is critical to understand the appearance and diversification of animal life.



A Rotadiscus grandis *specimen from the early Cambrian Chengjiang biota (Yunnan Province, China). Photograph (top) and illustrative drawing (below). (Modified from Li et al., 2023 in Current Biology; DOI:10.1016/j.cub.2023.04.048)*

Dr Leonidas Davranoglou traversing the dense jungle of the Cyclops Mountains in Papua © Expedition Cyclops

Promoting biodiversity research and conservation in Papua

Leverhulme Research Fellow, Dr Leonidas-Romanos Davranoglou, was the entomology leader of an expedition to the Cyclops Mountains of Papua Province in Indonesian New Guinea for biological and geological research during June-July 2023. The expedition, led by Dr James Kempton, could not have taken place without collaboration with the local communities and authorities, particularly at the village of Yongsu Spari, and from students at Cenderawasih University, as well as the support provided by conservation NGO YAPPENDA and other groups and institutions.

The team set camera traps for surveying the mega-fauna of the Cyclops Mountains, which for the first time managed to film the elusive Attenborough's long-beaked echidna. Biodiversity sampling recovered a wealth of arthropods, including several dozen new insect species, as well as diverse vertebrates such as amphibians, reptiles and birds. Near future projects include Papuan student stays in Oxford, further expeditions, and establishing a biodiversity and conservation centre at Yongsu Spari.

The nature of replication

In July 2023, Dr Elaine Charwat defended the doctoral project *The nature of replication: Re-contextualising 19th- and early 20th-century replicas at the Oxford University Museum of Natural History – an interdisciplinary and comparative approach.* This project was funded by an AHRC's Collaborative Doctoral Partnership and was supervised by Dr Alice Stevenson and Dr Chiara Ambrosio at University College London, and Mark Carnall, Collections Manager (Life).

Dr Elaine Charwat holds a cast of a Moa femur from the Museum's collection

Dr Charwat's PhD explored the models and casts held at the Museum to gain a holistic understanding of their importance from scientific, historical, museological, technical, pedagogical, or artistic standpoints. The project ultimately aimed to provide a practical roadmap to increase visibility and access for these often-neglected objects in natural history museums.

People and Culture

Equality, Diversity and Inclusion

The Museum's Equality, Diversity and Inclusion (EDI) Group shifted focus from the fully-fledged bursary scheme supporting future generations of scientists, to a wider analysis of recruitment and inclusivity across the Museum workforce. Drawing on extensive research by the EDI Group lead, with expert support from the GLAM EDI Officer, a set of guidelines were developed and implemented, formalising good recruitment practice and a commitment to equality, diversity and inclusion in staffing in all sections of the Museum.

The Building

Caring for our building

For much of the year, the Museum was surrounded by building works on all sides, and even inside the building. Waterproofing work to the basement below the lawn was completed, and by July 2023 a new lawn was being laid, and the internal fit-out of the building below advanced.

Inside the building, a long overdue project to make significant repairs to the main court floor commenced, with stonemasonry specialists lifting our listed floor flagstones and re-pointing the brick work in the uncovered hypocaust system. To access the flagstones, it was necessary to lift the main court carpet and clean the residue left behind. This painstaking work uncovered the unique original decorative floor, complete with the inlaid signature (D, W) of the building's architects. The flagstones will be treated and left uncovered to allow visitors to enjoy this beautiful architectural detail.

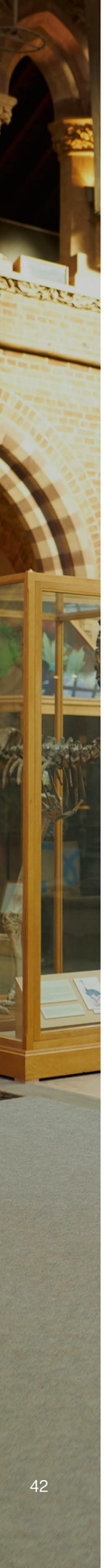
Finance and Fundraising

Finance and fundraising

In line with many other organisations, the Museum saw significant financial challenges during the year. The cost of utilities rose steeply, and two non-budgeted 'cost of living' payments made to staff tipped the budget into a precarious state. A dual approach to weathering this storm was adopted; limited resources were carefully stewarded, with expenditure monitored, whilst the commercial team worked hard to achieve and exceed stiff targets.

Significant fundraising successes from trusts and foundations within the year allowed an expansion of the Museum's pioneering bursary scheme and the purchase and conservation of the Buckland Archive.

Life, As We Know It *redisplay © David Fisher*



Appendices

Appendix 1: Visitors of the Oxford University Museum of Natural History 31 July 2022

Chair: Carole Souter CBE (to September 2022)
Chair: Professor Baroness Kathy Willis CBE (from March 2023)
Senior Proctor: Professor Jane Miller (to February 2023)
Senior Proctor: Dr Kathryn Murphy (from March 2023)
Dr Emily Dawson
Professor Anjali Goswami
Dr Elizabeth Jeffers
Professor Mike Kendall
Professor Anjana Khatwa
Dr Miranda Lowe
Professor E.J. Millner-Gulland
Professor Kia Nobre (to June 2023)
Richard Ovenden
Professor Thomas Richards
Professor Erin Saupe
Dr Laura Van Broekhoven
Professor William Whyte
Secretary to the Board: Professor Paul Smith

Appendix 2: People

Staff of the Museum 2022-2023

Director: Professor Paul Smith
Acting Director: Janet Stott (to September 2022)
Deputy Director: Janet Stott
Museum Executive Assistant: Louise Wright (to November 2022)
Museum Executive Assistant: Hannah Betts (from November 2022)

Life Collections

Head of Life Collections: Zoë Simmons
Senior Collections Manager: Darren Mann
Conservator: Jacqueline Chapman-Gray
Museum Cleaning Technician: Eva Bosher-Krivanova
Mount Maker: Victoria Price-Rochow (from July 2023)
Collections Managers: Mark Carnall, Dr James Hogan, Amoret Spooner
Collections Assistants: Robert Douglas

Earth Collections

Head of Earth Collections and Digital Collections Lead: Eliza Howlett
Collections Managers: Dr Hilary Ketchum (to December 2022), Dr Duncan Murdock, Dr Emma Nicholls (from March 2023)
Earth Sciences Preparator and Conservator: Juliet Hay
Collections Assistant: Dr Brigit Tronrud (from January to July 2023)

Research

Head of Research: Professor Paul Smith
Deputy Head of Research: Dr Ricardo Pérez-de la Fuente
Senior Researcher: Dr Sammy De Grave
Senior Researcher and NERC Independent Research Fellow: Dr Frances Dunn
Leverhulme Research Fellows: Dr Leonidas-Romanos Davranoglou, Dr Elsa Panciroli
Palaeobiology Technician: Dr Carolyn Lewis
Research Assistant: Dr Luis Baudouin Gonzales (to August 2022)
AHRC CDP Researchers: Dr Elaine Charwat, Grace Exley, Helen Goulston, Ellie King, Susan Newell, Naï Zakharia

Archives and Library

Librarian and Archivist: Danielle Czerkaszyn
Digital Archivist: Matthew Barton
Digital Collection Manager: Dr Sarah Joomun
CMS Manager: Lukasz Kowalski (from January 2023)

Public Engagement

Head of Public Engagement: Janet Stott
Head of Education & Learning: Sarah Lloyd
Redisplay Project Managers: Scott Billings, Rachel Parle
Web Content and Communications Officer: Ella McKelvey
Digital Communications Officer: Sarah Bell
Education Officers: Chris Jarvis, Carly Smith-Huggins
Bookings Administrator and Education Assistant: Jenny Hulmes
Exhibitions Officers: Ellena Grillo, Dr Kelly Richards
Interpretation and Project Officer: Natasha Smith

HOPE for the Future project – learning

Project Manager: Anna Jones (to February 2023)
Learning Officers: Rodger Caseby (to January 2023), Susannah Glover (to August 2022), Kate Jaeger (to August 2022)
HOPE Community Engagement Officer: Hayleigh Jutson (to December 2022)
HOPE Collections Outreach Assistant: Louis Lofthouse (to January 2023)

Operations

Head of Operations: Laura Ashby (from November 2022)
Events Manager: Bella Pratt (to December 2022)
Events Manager: Paris Irving (from March 2023)
Deputy Events Manager: Casey Kwon (from October 2022), Paris Irving (from October 2022)
Museum Events Facilitators: Yasmin Anwer (to January 2023), Charlotte Cullen (from October 2022), Danielle Czerkaszyn (from October 2022), Adam Fisk, Jane Griffin, Clement Lofthouse, Louis Lofthouse, Megan MacLean, Ella McKelvey (from October 2022), Rob Parker, Amoret Spooner, Jordan Wernyj
Assistant Accountant: Nicole Cunningham
Accounts Assistant: Anne Atkinson

Front of House Manager: Ellie Talbot
Deputy Front of House Manager: Jordan Wernyj
Visitor Services Assistants: Yasmin Anwer (to January 2023), Molly Appleby (from July 2023), Camille Britton (from October 2022), Isaac Caseby (from August 2022), Charlotte Drohan (from July 2022), Jane Griffin, Matthew Humpage (to July 2023), Clement Lofthouse, Louis Lofthouse (to September 2022), Maya Lucas (May 2023), Navigator Ndhlovu, Robert Parker, Sylvia Pinna, Barbara Souto Dos Santos (from July 2023)
Building Manager: Peter Johnson
Maintenance Technicians: Ben Wilsker
Retail Manager: Fitri Puspitasari
Shop Assistants: Mayuri Chopra (from January 2023), Thomas Edgeworth, Maya Lucas (from January 2023), Lucy Shott, Jason Weir

Honorary Associates

Christine Buckingham
Jonathan Cooter
Professor John Holmes
Dr John W. Ismay
Dr Jeyaraney A. Kathirithamby (to January 2023)
Dr Tom S. Kemp
Professor W. Jim Kennedy
Professor Jack Matthews
Dr George C. McGavin
Nina Morgan
Dr Malgosia Nowak-Kemp
Roy Overall
Sarah Phibbs
Dr Adrian C. Pont
H. Philip Powell
Monica Price
Dr Imran Rahman
Professor Mark Robinson
Dr Katharine Scott
Professor Mike Searle
Professor Derek J. Siveter
Sally-Ann Spence (to January 2023)
Dr Christopher Stimpson
Dr Lauren Sumner-Rooney
John Tennent
Dr Dave Waters
Professor Mark Williams
Dr Mike Wilson

Associate Researchers

Dr Ross Anderson
Neil Adams
Acheampong Atta-Boeteng
Peter Lincoln (from June 2023)
Dr Luke Parry
Matthew Sutton
Steven Williams (from March 2023)

Appendix 3: Finance

Donations received and grants awarded

Donations

EPA Cephalosporin Fund
£72,355
Internships, HOPE for the Future and DNA workshops

Friends of the National Libraries
£20,000
Buckland Archive Purchase

HA Carey
£17,126
Bursary Scheme

Headley Trust
£25,000
Buckland Archive Purchase

Longstaff Endowment Trust
£6,800
HOPE for the Future

National Archives
£35,000
Buckland Archive Purchase

National Heritage Memorial Fund
£224,450
Buckland Archive Purchase

National Lottery Heritage Fund
£162,250
HOPE for the Future

National Manuscripts Conservation Trust
£10,000
Buckland Archive Purchase

Negaunee Foundation
£80,038
Main Court Redisplay and Buckland Archive Purchase

Street Foundation
£125,000
Buckland Archive Purchase

V&A
£50,000
Buckland Archive Purchase

Research

John Fell Fund
£28,728
Matched funding

Leverhulme Trust
£86,963
Funded fellowship

National Environmental Research Council
£52,089
Funded fellowship

Royal Society 1851
£8,791
Funded fellowship

Wellcome Trust
£5,247
Meat the Future

UK Foreign, Commonwealth and Development Office
£6,392
Fair Water?

The Museum is extremely grateful to the many individual donors, foundations and trusts who have generously contributed to its work in 2022-23.

Appendix 4: New Acquisitions 2022-2023

Earth Collections

A total of 7 accession lots comprising around 184 specimens were received by donation.

Notable accessions acquired during the year included:

- Carboniferous plants from Somerset and South Wales, and Wealden plants from West Sussex (33 specimens, from Tony Holmes)
- Devonian fish from Cornwall (33 specimens, from Paul Davis)
- Rock hand specimens and thin sections from the Himalayas (124 specimens, from Micah Jessup)

Life Collections

A total of 19 Accessions lots comprising of approximately 75,000 specimens were received by donation, purchase or exchange in 2022-23.

Notable accessions included:

- The Dr Graham W. Elmes collection of Holarctic Myrmica ants (Hymenoptera; Formicidae). Circa 60,000 specimens with paratypes of over 100 species.
- The K. Rognes collections of Palaearctic Diptera (circa 12,500 specimens with types of over 15 species)
- A small collection of terrestrial gastropods (Mollusca; Gastropoda) donated by K. Boss, comprised of over 100 specimens and including paratype material.

Archive and Library Collections - 2020-2021

42 journals were subscribed to and a further 5 were donated, containing 141 parts and measuring 0.7 linear metres. 30 monographs were purchased and additional uncatalogued material was also added to the collection.

Notable accessions and donations during the year included a collection of speciality books on birds from David Harwood (43 books), and books on the insects were donated Thomas M. Eccles (27 books) and Brian Taylor (10 books).

Additional Buckland Archive was purchased via Sotheby's from the family to be added to the archive collection.

Appendix 5: Loans 2022-2023

Earth Collections

A total of 27 loans of 266 specimens were provided, all of which were to the UK.

Life Collections

A total of 29 physical loans comprising of 478 specimens were provided, of which 21 were to the UK, seven to the EU and one to the rest of the world.

A total of 25 digital loans of 54 specimens (not accounting for multiple aspects of same sp.) of which one was to the UK, nine were to the EU and 15 were to the rest of the world.

Archive and Library Collections

One portrait and three facsimile letters were loaned to the Lyme Regis Museum, UK.

Appendix 6: Enquiries 2022-2023

Earth Collections

Staff dealt with 304 enquiries.

Life Collections

Staff dealt with 452 enquiries.

Archive and Library Collections

Staff dealt with 385 enquiries.

Appendix 7: Official Visitors 2022-2023

Earth Collections

There were 121 collections visits, of which 85 were from UK residents, 2 were from other EU residents and 34 were from residents of other countries.

Life Collections

There were 357 collections visits, of which 276 were by UK residents, and 81 by non-UK residents.

Archive and Library Collections

There were 140 individual visitors in total. The majority of visitors were from the UK.

Appendix 8: Publications by Museum staff (1 January to 31 December 2022)

Members of OUMNH staff indicated in **bold;** OUMNH Honorary Associates indicated in ***bold italics.***
In addition to these publications, 72 journal articles and eight monographs were published on the collections by external researchers.

Adams, N. F., Candy, I. & Schreve, D. C. 2022. An Early Pleistocene hippopotamus from Westbury Cave, Somerset, England: support for a previously unrecognized temperate interval in the British Quaternary record. *Journal of Quaternary Science,* 37, 28-41. DOI:10.1002/jqs.3375

Agić, H., Högström, A. E., Jensen, S., Ebbestad, J. O. R., Vickers-Rich, P., Hall, M., ***Matthews, J. J.,*** Meinhold, G., Høyberget, M. & Taylor, W. L. 2022. Late Ediacaran occurrences of the organic-walled microfossils *Granomarginata* and flask-shaped *Lagoenaforma collaris* gen. et sp. nov. *Geological Magazine,* 159(7), 1071–1092. DOI:10.1017/S0016756821001096

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Arce, A., Cantwell-Jones, A., Tansley, M., Barnes, I., Brace, S., Mullin, V., Notton, D., Ollerton, J., Eatough, E., Rhodes, M., Bian, X., **Hogan, J.,** Hunter, T., Jackson, S., Whiffin, A., Blagoderov, V., Broad, G., Judd, S., Kokkini, P., Livermore, L., Dixit, M., Pearse, W. & Gill, R. 2022. Signatures of increasing environmental stress in bumblebee wings over the past century: Insights from museum specimens. *Journal of Animal Ecology,* 92(2), 297–309. DOI:10.1111/1365-2656.13788

Baranov, V., **Pérez-de la Fuente, R.,** Engel, M. S., Hammel, J. U., Kiesmüller, C., Hörnig, M. K., Pazinato, P. G., Stahlecker, C., Haug, C. & Haug, J. T. 2022. The first adult mantis lacewing from Baltic amber, with an evaluation of the post-Cretaceous loss of morphological diversity of raptorial appendages in Mantispidae. *Fossil Record,* 25(1), 11–24. DOI:10.3897/fr.25.80134

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Cherns, L., Spencer, A. R. T., ***Rahman, I. A.,*** Garwood, R. J., Reedman, C., Burca, G., Turner, M. J., Hollingworth, N. T. J. & Hilton, J. M. 2022. Correlative tomography of exceptionally preserved Jurassic ammonite implies hyponome-propelled swimming. *Geology,* 50, 397–401. DOI:10.1130/G49551.1

Christodoulou, M., **De Grave, S.,** Vink, A. & Martinez Arbizu, P. 2022. Taxonomic assessment of deep-sea decapod crustaceans collected from polymetallic nodule fields of the East Pacific Ocean using an integrative approach. *Marine Biodiversity,* 52(6), 61. DOI:10.1007/s12526-022-01284-2

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