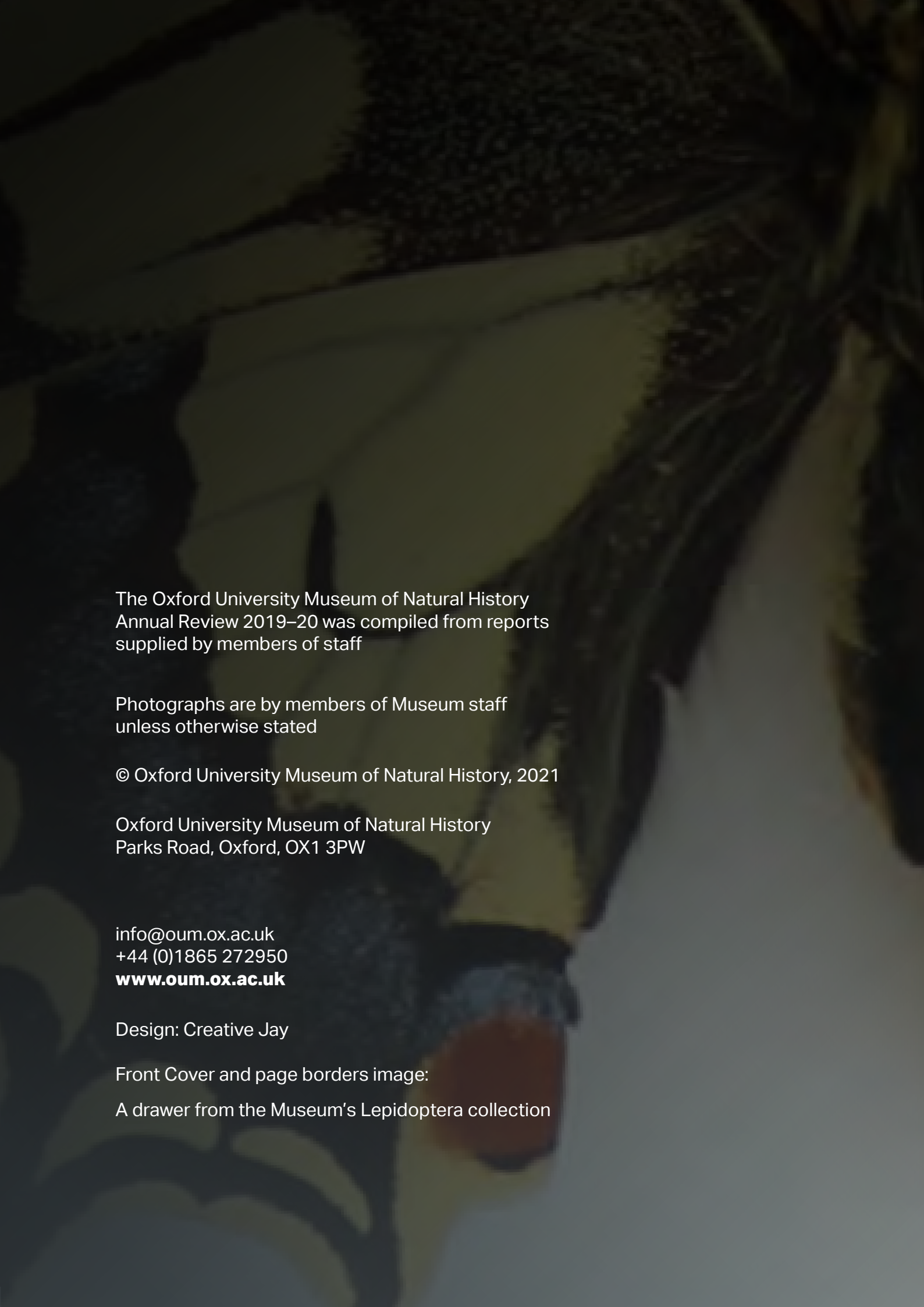
OXFORD UNIVERSITY MUSEUM OF NATURAL HISTORY

Annual Review

2019 – 2020

Museum of Natural History



The Oxford University Museum of Natural History Annual Review 2019–20 was compiled from reports supplied by members of staff

Photographs are by members of Museum staff unless otherwise stated

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Front Cover and page borders image:

A drawer from the Museum's Lepidoptera collection

Contents

Director's Report

The academic year 2019–2020 was the proverbial year of two halves. The first part of the year saw a continuation of the previous year's successes. Visitor numbers were on track to equal or surpass the high-water mark of 801,521 set in 2018–2019, and August and December were record breaking months for visitor numbers in the history of the Museum. *First Animals*, which had opened in July 2019, had become the most visited exhibition in the Museum to date, with 219,323 visitors in eight months, and its run had therefore been extended to the end of August 2020. Meanwhile, the ambitious £1.3m HOPE for the Future project to conserve and make more accessible the British entomology collection, funded by the National Lottery Heritage Fund, was up and running from the autumn of 2019 and the HOPE collections team was busy remounting 1.1 million insects into unit trays and new drawers. In the main court, the installation of new cases in the centre aisle was due to start in the spring of 2020 as Phase 2 of the redisplay programme.

The second half of the academic year could not have been more different, as the Covid pandemic struck. The Museum closed its doors to the public on 16 March and was not able to re-open until 22 September. In the end, visitor numbers were down 42% on 2019–2020 levels. Most staff were furloughed for at least some of the period though the collections began to re-open for research enquiries in July. The HOPE for the Future project was suspended, as was Phase 2 of the redisplay programme, but both of these projects were able to re-commence just as the academic year came to a close.

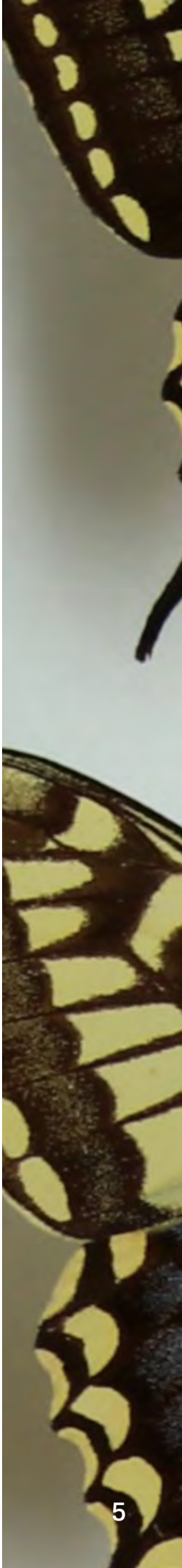
In common with other museums and cultural organisations, the crisis created a major test of institutional resilience and 20% of income, the commercial fraction, was turned off overnight. Fortunately, the University has been extremely supportive of the Museum, and government furlough support was also an important source of funding, enabling a break-even budget to be delivered at the end of a turbulent year.

Nevertheless, this was an exceptionally difficult year for Museum staff members, but particularly those with personal vulnerabilities, caring responsibilities or home-schooling duties. It was therefore heartening to see the rapid growth of virtual social groups from the moment of lockdown, ranging from book and film clubs to a crafting group, a wild swimming group offering recommendations on localities, virtual pubs, and a Friday evening event, *The Singing Stones*, that mashed together geological lectures on the stone columns of the main court with folk music from those locations.

The abrupt closure and cancellation of events programmes also necessitated a rapid adaptation to enable the Museum to continue interacting with its audiences. One early intervention was to shift the *First Animals* lecture programme online, and this was an almost instantaneous success. The 11 lectures were viewed live by people from 63 countries, with an average dwell time of 59 minutes, extending the Museum's global footprint in a way that could not have been anticipated pre-pandemic and changing the way it will interact with audiences for the long term.

There will be more about this digital adaptation in the next review, but an early decision has been that the Museum will focus on delivering live, rather than pre-recorded, lectures and events to our new audiences. It has been a different year, and in many ways a difficult year, and I am particularly grateful to staff members in all areas of the museum for making it a creative and dynamic year too, against all the odds.

Professor Paul Smith
Director



Highlights

First Animals

First Animals opened in July 2019, using cutting edge technology to bring 500–600 million year old fossils to life, creating a unique visitor experience. The exhibition and the accompanying programme proved the most successful in the five years of the Contemporary Science & Society series, in terms of both reach and impact. Audiences had the opportunity to learn about the latest research developments through evening lectures by world-leading experts, and through Science Shorts by early career researchers. The exhibition also used contemporary art to engage new audiences, as a result of a partnership with the Oxford Printmakers Cooperative.

First Animals installation view

Let's Talk About Climate

Let's Talk About Climate saw young people given the opportunity to review climate change evidence first-hand, talk to the experts and respond. Across six interactive workshops, participants between the ages of 15 and 19 years learnt about the science of climate change, thinking about the how to solve the problem, and working out how to pass on their own message to influence decisions made at individual, local and national levels.

Launch of New Collections Online Site

In October 2019, the Museum's new Collections Online site was launched, allowing visitors from anywhere in the world to search the Museum's digitally catalogued collections and view records and images. More specimens and objects were made accessible online than ever before, and for the first time there was a central location from which to search the catalogues of the Archives, Entomology, Mineralogy and Petrology, Palaeontology and Zoology Collections.

Highlights

Masterplan and Redisplay

In December 2019, the Museum was delighted to announce the generous grant of £250,000 from FCC Environment, distributed by FCC Communities Foundation, to support the Museum's ambitious plans for the future. The FCC grant became the catalyst for a process of masterplanning changes to the public spaces of the Museum over the coming years including the removal of 12 of the old display cabinets that line the centre court, which were no longer fit for purpose in terms of protecting the collections. FCC's grant was matched by other donations to fund the purchase of ten new bespoke showcases.

New Museum showcase in situ

HOPE for the Future Project

The Museum successfully secured £700,000 of National Lottery support for its ambitious HOPE for the Future – Heritage, Outreach and Preservation of Entomology project. The HOPE Project will re-house and make more accessible the Museum's one million British insects, a collection which spans almost the entire history of British entomology.

HOPE
FOR THE FUTURE

Right: Stag Beetles within the British Insect Collection

Public Engagement and Education

First Animals exhibition and programming

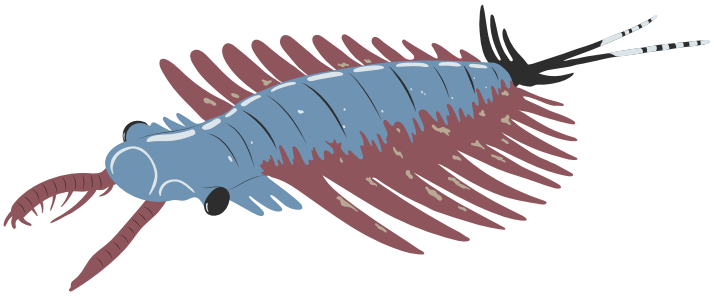
12 July 2019 – 16 March 2020

First Animals combined the best of the very old – displaying 500–600 million year old fossils – with the best of the very new – using digital technology to bring these fossils to life and create a unique experience. The exhibition and the accompanying programme proved the most successful in the five years of the Contemporary Science & Society series, in terms of both reach and impact. Highlights included 55 exceptionally preserved fossils from Yunnan University in Chengjiang, displayed outside of China for the very first time, and virtual reconstructions of the early Cambrian sea floor, made possible through close collaboration between researchers at the two universities.

The exhibition received a total of 219,562 visitors, averaging 882 visitors per day and exceeding the previous high by 12%. There were 5,123 unique engagements through the onsite programme and, in a new venture, an online programme dramatically extended the reach, facilitating 3,290 additional engagements and connecting with individuals in 61 different countries.

Audiences had the opportunity to learn about the latest research developments through evening lectures by world-leading experts, and through Science Shorts by early career researchers. There were more than 1,600 engagements through informal programming and the Museum also provided formal sessions for 382 A-level students through study days and 141 undergraduate and postgraduate students in seven universities through facilitated visits.

The exhibition also used contemporary art to engage new audiences, as a result of a partnership with the Oxford Printmakers Cooperative. A group of printmakers and researchers worked together, blending art and science in a sold-out intensive full-day workshop. Programming also included new bespoke events including touch tours for blind and partially sighted visitors and *First Animals* themed tours in partnership with the charity Crisis.



Recreating an ancient ocean digitally

One of the biggest challenges faced during development of the exhibition lay in bringing exceptionally preserved fossil specimens back to life as living organisms. Specialist digital reconstructions allowed the project team to create unique virtual environments and animated animals, offering visitors and online audiences a rich visual picture of some of the planet's earliest animals.

Museum researchers and the digital engagement team worked with specialist digital palaeo-artists at Mighty Fossils in the Czech Republic and a digital consultancy, Fish in a Bottle, in the UK to create digital resources and an in-gallery interactive. *First Animals* featured unique fossils from the Chengjiang site in China and 12 key animals from this site were digitally modelled and placed inside a virtual Cambrian ocean. This environment was then transformed into the Cambrian Diver interactive, allowing visitors to pilot a submersible through the 500-million-year-old oceans and to encounter the animals in their ecosystem.

A still from the Cambrian Diver interactive

First Animals Object Handling

An object handling box was constructed containing fossils provided by Earth Collections, and also models of early sea creatures for Public Engagement volunteers to use as handling specimens for teaching activities relating to the *First Animals* exhibition.

First Animals object handling box

Yorkshire Fossil Festival

For the 2019 Yorkshire Fossil Festival (14–15 September 2019), colleagues took inspiration from the *First Animals* exhibition and transported to Scarborough a large cast of ancient sea floor from Canada's Mistaken Point. The cast contains the remains of animals that lived 565 million years ago known as the Ediacarans. Their lives came to an abrupt end when they were shrouded in a thick layer of volcanic ash, preserving their remains in exquisite detail.

Visitors took part in the Ediacaran Odyssey where they explored the surface of this extraordinary ancient sea floor using torches. They made out the unusual shapes thought to have been left behind by decaying Ediacarans, known as 'pizza disks' and 'dog paws'. *Haootia* and *Fractofusus* captured people's imagination, and with the help of digital reconstructions and 3D glasses, visitors were able to find out what these fascinating first animals looked like. It was a busy weekend and colleagues spoke to 135 school children, and welcomed 629 visitors to participate in the Museum's family activities.

Above: Fossil activity sheets completed by Yorkshire Fossil Festival attendees
Left: Jenny Hulmes demonstrating the Ediacaran Odyssey

The Great Debate First Animals: When, Where and How?

Taking a closer look at the origins of animal life, in 2020's great debate an expert panel were invited to discuss the mechanics and timing of the Cambrian Explosion - the extraordinary evolutionary event that sparked the diversification of animal life. Panellists Professor Allison Daley, Professor Phil Donoghue FRS, Professor Peter Holland FRS, Professor Ros Rickaby and panel chair Director, Professor Paul Smith discussed the influence of genetics, geochemistry, and ecosystem interactions, and in a tense and dynamic debate sought to establish just how 'explosive' the Cambrian Explosion really was. At the event 'First Animals: When, Where and How?' on 11 February 2020, the panel discussion ranged across a wide variety of topics including the timing of animal origins, the influence of developmental and environmental factors, and the emergence of modern oceanic ecosystems.

Audience members were invited to participate through a live vote at the beginning and end of the event, revealing a change of opinion as a result of the discussions. The film of the debate and the results of the polling are available to view on the Museum website and will form a key part of the legacy for the *First Animals* exhibition.

The Great Debate 2020

Specimen Standoff

October 2019 was packed full of programming for the *First Animals* exhibition including tours, lectures, half-term activities and our fantastic Specimen Standoff which allowed our audiences to (in their own words) "*see the funny side of professional science in all its glory!*". This unique gameshow style event saw eight researchers from universities across the country compete to win favour from the audience for their chosen fossil specimen and their team. The standards were high and the competition was fierce between the two very evenly matched Marine and Terrestrial teams, but with a little help from 'Connie' the (sock-puppet) conodont, Chris Stockey of the University of Leicester secured victory for Marine.

Specimen Standoff participants

STEM Placement Students

Six enthusiastic 15- and 16-year-olds from local state schools gave up three weeks of their summer holiday in 2019 to take part in a summer placement programme. They planned investigations and took part in a huge range of practical science activities as part of a British Science Association Gold CREST Award programme.

The students were very positive about their experience and notable comments from the group at the end of their time included “thank you so much for this experience and for all the help, we all really enjoyed it!” and “we had a lot of fun and I definitely learnt a lot.” EPA intern, Asher Winter was exceptional and the students really appreciated the support of such a positive role model.

2019’s STEM placement students

Natural History Investigators

A new group of Natural History Investigators started their programme of weekend science activities at the Museum in January 2020. Over the last seven years the Investigator group has responded to the feedback from participants, parents and teachers and grown in size, to 26 investigators from state schools in Oxfordshire and surrounding counties. Colleagues have been working with IntoUniversity and have allocated places to disadvantaged young people targeted by the charity.

A Natural History Investigators participant

Let's Talk About Climate

Let's Talk About Climate saw young people given the opportunity to review climate change evidence first-hand, talk to the experts and respond. The programme aims to instil confidence in young people so that they can use clear language and persuasive arguments to talk to their family, friends, school, local and national government figures about climate change.

Over six interactive workshops, participants between the ages of 15 and 19 years learnt about the science of climate change, thinking about how to solve the problem, and working out how to pass on their own message to influence decisions made at individual, local and national levels. Taking place on Saturday mornings throughout September and October 2019, workshops drew on academic expertise from a range of departments within the University.

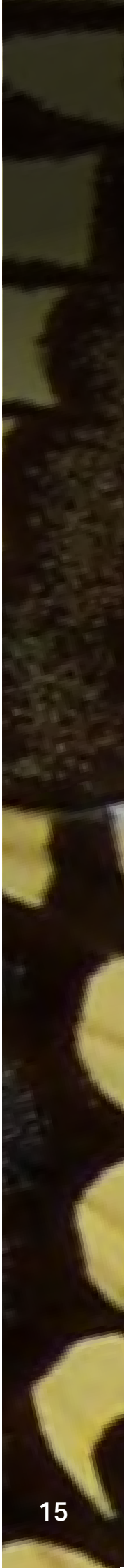
The final event in the series took place on 2 November 2019 and local MPs, Anneliese Dodds and Layla Moran, county councillor, Norman MacRae, and Lord Mayor of Oxford, Craig Simmons, made up a responsive and highly engaging panel. Participants asked why it is taking such a long time for policy makers to act on the climate crisis. They also wanted to know what incentives governments could offer those facing deprivation to engage with climate related issues.

Let's Talk About Climate proved to be an innovative, inspiring and rewarding project and colleagues are looking to build on its successful outcomes over the next year.

> ***"Thank you so much for a brilliant series of workshops. My daughter has hugely enjoyed and benefited from it. She is also now greatly involved with climate change and environmental activities at her school. As well as the quality of the taught and shared learning, she has been aware that the course organisers have invested in her and the other participants."***
>
> Parent

> ***"... just what is needed to create a space to inform young people about climate science and how we can tackle climate change. I think understanding the science behind the problem and all of the complexities involved is really empowering, especially when faced with something of the magnitude of climate change."***
>
> Facilitator

> ***"Let's do it again!"***
>
> Participant



Conservation Optimism Film Festival

On 2 September 2019, the Museum's lecture theatre hosted an international film festival of short films organised by Conservation Optimism, a global community dedicated to sharing stories and resources to empower people from all backgrounds to make a positive impact for wildlife and nature.

Kicking off with a panel discussion between judges drawn from the world of film and conservation around the importance of film making to raise awareness of conservation issues, a diversity of short movies was then screened belonging to the following categories: Super Shorts, People & Nature: Communities, Heroes & Wellbeing, Conservation Works: Learning from Success & Failure, Animation and Student films. The Museum was also lucky enough to get permission to share the films with our audience digitally and all the films can be viewed on the Conservation Optimism website.

Rewilding Europe

The evening of the 25 October 2019 saw the Museum present the premier UK screening of the ARTE documentary film 'Rewilding Europe', which details the various types of rewilding projects occurring right across the continent including several of those taking place in England. The film was prefaced with a pre-recorded interview with film-maker Vincent Parazio and followed by a panel discussion between rewilding experts Dr Paul Jepson, Dr Jamie Lorimer and Emily Neil chaired by Museum Education Officer, Chris Jarvis. The discussion ranged from the appropriateness of types of rewilding in different landscapes with different human populations, through rewilding and current legislation, to the panel's personal choices on which particular species would signal a rewilding success if established in Britain.

Right: Eurasian lynx mother and cub

Ash Dieback in Wytham Woods

12 March 2020 saw a very well attended talk on the effects of, and research into, *Hymenoscyphus fraxineus*, which causes ash dieback disease, in Wytham Woods. Keith Kirby first described how this deadly pathogenic fungus, originating in Southeast Asia where it exists without serious effects on native Manchurian ash species, has spread across the UK having been first recorded in Poland in 1992. As the disease causes mortality in up to 90% of ash trees, this pathogen is set to completely alter the British countryside in the coming years as most of our estimated 90 million trees succumb.

The evening's second speaker, Dr Cecilia Dahlsjo of the ECI, described the research taking place in Wytham into trying to predict the trophic effects that ash dieback may have on ecosystems around the country and described some of the preliminary results.

An example of ash dieback disease

Taxidermy Day Schools

The Museum ran two Taxidermy Day Schools in September 2019 under the expert tutelage of the UK Guild of Taxidermists' Derek Frampton, who has supplied many of the Museum's specimens. Members of the Museum's conservation team took part, noting that the course gave them a different perspective on conservation.

Taxidermy Day School participants

Touch Tour

On 12 September 2019, Earth Collection colleagues gave a hands-on guided tour of the *Out of the Deep* display for blind or partially sighted visitors. 11 people and two guide dogs attended, with one visitor travelling from London to participate. The tour also included a visit behind the scenes to handle marine reptile specimens from the collection, including a partial plesiosaur flipper thought to have been found by Mary Anning, plesiosaur teeth and vertebrae, an ichthyosaur jaw and coprolites from the Jurassic of Lyme Regis.

An *Out of the Deep* touch tour specimen

LGBTQ History Month

Oxford saw lots of activity during LGBTQ History month and the Museum marked the occasion on 27 February 2020 with an informative talk by Ross Brooks on the important role certain Oxford biologists played in actively campaigning for reform of the law relating to homosexuality during the 1950s. The momentous 1957 Wolfenden Report recommended the partial decriminalisation of male homosexual acts, a recommendation which was eventually enacted in England and Wales by the Sexual Offences Act 1967.

Among those who petitioned the Wolfenden Committee to recommend changing the law were some of Britain's leading biologists including C. D. Darlington, Ronald Fisher, E. B. "Henry" Ford, Julian Huxley, and Miriam Rothschild. Their testimonies made unprecedented genetic and evolutionary arguments for the naturalisation and legalisation of homosexual acts between consenting adults. Using previously unknown archival sources, Ross described the behind-the-scenes story of these testimonies, and described the scientific arguments and the broader personal and cultural issues that lay at stake.

Ross Brooks

Facets of Nature

Facets of Nature was a free public event and part of the Museum's adult programme of activities, which took place on 5 September 2019 and was attended by over 50 visitors. Earth Collections colleagues presented talks on the Museum's gemstone collection and the art of gemstone cutting alongside Jamie Richardson, secretary of the UK Facet Cutters Guild. The event offered the opportunity to view rough and cut gemstones, including diamond replicas, provided by members of the UK Facet Cutters Guild, along with large specimens of gem minerals from the Museum's mineralogy collections.

Eye of Cleopatra gemstone from the Facets of Nature event

Puzzle Creature

On 1 March 2020, 70 people sat inside an enormous transparent bubble in the South Court of the dark Museum while three contemporary dancers moved and interacted with audience members and artefacts made from medical-grade moulding, to a throbbing, apocalyptic soundscape which talked of the end of the world.

Neon Dance (whose performers had spent a busy Sunday in the Museum dancing amongst crowds of surprised visitors) brought their spectacular show Puzzle Creature to the Museum of Natural History. Putting the prescience of this piece aside, the haunting strangeness of the bubble that the audience first sat in then walked on top of appearing unexpectedly inside the Museum, the atmospheric lighting and the insistent soundtrack transformed the space, making for a truly thought-provoking and arresting work. Colleagues worked with Dancin' Oxford festival and Neon Dance to bring the show to the Museum, as well as allowing hundreds of daytime visitors to experience the space in a new way through watching and interacting with professional dancers.

Above and right: Puzzle Creature show in the Museum Court

Celebrating Ruskin 200

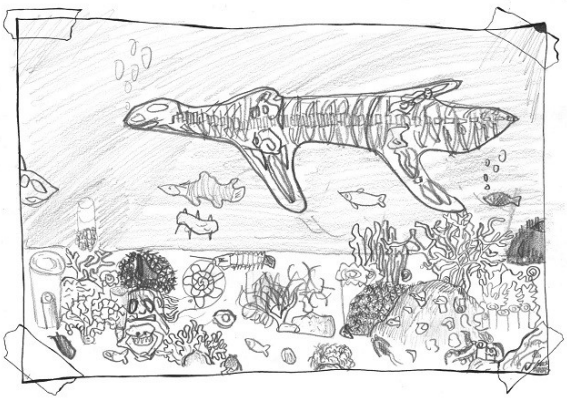
In 2019 the Museum participated in bicentenary commemorations of John Ruskin's birth, highlighting his connections to the Museum through a series of events, and working closely with Professor John Holmes at the University of Birmingham.

The year-long programme of events began on Ruskin's birthday in February and continued over the summer with displays and events including drawing activities with Fusion Arts, through to November 2019 with a sold-out public talk by Professor Holmes on the Pre-Raphaelites and Science. A final 'Evening with Ruskin' public event, hosted by Professor Holmes, brought together wonderful volunteers and collaborators from across the year's activities, and celebrated Ruskin-as-polymath at the Museum through architectural tours, short talks, and opportunities to see archival and geology collections not usually on display.

An Evening with Ruskin, hosted by Professor John Holmes

Ruskin 200 Young Artists

The Ruskin 200 Young Artists Competition (11 May - 14 July 2019) was designed to showcase the artwork and creative talent of the Museum's younger visitors, aged between five to 15 years old. The winning and highly commended entries for each of the three age categories, five to seven years, eight to 11 years, and 12-15 years, were displayed in the Museum's Community Case until 30 September 2019. The artworks were selected by a panel of judges from across Front of House, Public Engagement and Life Collections. The panel had an incredible 164 entries to consider, ranging from dinosaurs to butterflies and gemstones. Choosing the winners was a very hard decision and there were many unofficial favourites that could not be displayed.



Ocean Life by Kian, 13
'There is a wonderful world under the sea. So much inspiration from the Museum, which leads me to the beautiful work.'

From Woodlice to Whales, via Ruskin and the Cambrian Explosion...

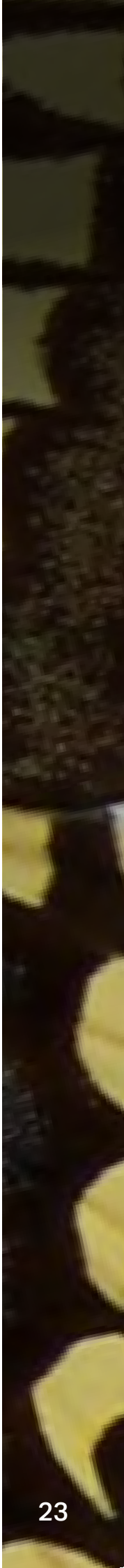
What, you might ask, is the connection between woodlice and whales? All was revealed in December 2019 when Crisis member Amber, who co-delivered *Ruskin 200*-inspired tours earlier in the year, returned to share another unique perspective on the natural world in a *First Animals*-inspired tour. She had previously joined fellow Crisis member, Andrew, to follow Ruskin's example and 'look closely' at the Museum and its contents. Whilst Andrew focused on the Museum's architecture, Amber presented an anatomical compare-and-contrast between the common kingfisher and *T. rex*. In her solo tour, Amber, who is on the autism spectrum, again overcame sensory challenges and grew in confidence to share her amazing eye for detail and create unexpected links between the two aforementioned animals, as well as trilobites, sea squirts, and *Vetulicola* – the latter of which appeared in the exhibition.

Colleagues from Public Engagement, Research and the GLAM Volunteer Service ran the project with support from Crisis staff. Colleagues commented afterwards: 'Amber's drive for knowledge, close attention to detail, and ability to choose specimens that provide novel and informative comparisons, have all encouraged me to engage with collections in new ways.

The project has offered alternative, qualitative engagement opportunities, enabled longer-term support for participants to explore the Museum's collections, and increased understanding of the needs of underserved audiences. Amber has since recorded her *T. rex* / kingfisher tour, an experience she described as 'a great achievement, possibly one of the biggest of my life'.

Crisis is the national charity for homeless people.

…and the answer, by the way, is bilateral symmetry!



Creature Colours February half-term family activities

During the half-term in February 2020, visitors were invited to explore the kaleidoscope of colour that makes up the natural world. With specimen handling supported by volunteers, families found out about the mesmerising optical effect or iridescence visible on the wings of a blue morpho butterfly, and on the feathers of a peacock. Visitors looked at which animals have iridescence and questioned why, and used the Museum's rabbit specimen to explain why mammals don't have this shimmering appearance, with the exception of the highly unusual golden mole! Colleagues also encouraged families to investigate iridescence at home by carrying out experiments involving everyday household objects.

The Museum's craft activities drew in large numbers as children were keen to make 'colour changing' butterflies or transform themselves into macaws with flamboyant feathers. It was an exceptionally busy week and colleagues welcomed 825 children across three days.

Creature Colours participants transformed into macaws

Space Rocks

In August 2019, Earth collection and Research colleagues attended two events about meteorites at the Oxfordshire County Library and Kidlington Library. Aimed at seven to 11 year olds, the events were part of Oxfordshire Library Service's 'Summer Reading Challenge' with the theme of 'Space Chase' to coincide with the 50th anniversary of the Apollo 11 moon landing. Museum staff gave a presentation on meteorites and then introduced an interactive game during which the audience were asked to determine if an object was a meteorite or a 'meteor-wrong' (not a meteorite). There was also a chance for the audience to handle some of the meteorites and 'meteor-wrongs' under supervision.

Meteorites being handled at Space Rocks

Board Game Science

During the summer of 2019 the Public Engagement team ran activities for families working with University researchers. During August they delivered 'Board Game Science' sessions led by researchers who designed their own science-themed board games. Themes included conservation, ecology and bacteria. Families could play games together and with other families, and were given the opportunity to find out more about these varied topics.

A special chemistry workshop for families led by researchers from the University of Southampton also took place. The scientists led activities that encouraged families to explore chemistry, particularly the nanoworld, and children in the workshops dressed in lab gear to experiment.

Families engaging with science through board games

University of Southampton chemistry team

Masterplan and redisplay

At the Super Science Saturday event in November 2019 colleagues ran a 'Shape Your Museum' stall asking visitors to vote (with Lego) on the three themes from our broad masterplan ideas that they would definitely want to see in the Museum. There were three categories: kids; adults for themselves; and adults visiting with children. About 150 people voted. Top three themes overall: History of the Planet; How the Earth Works; and Human Impact on the Environment.

Shape the Museum stall at the 2019 Super Science Saturday

Transforming the Museum with a Masterplan for the Future

In December, we were delighted to announce the generous grant of £250,000 from FCC Environment, distributed by FCC Communities Foundation, to support the Museum's ambitious plans for the future. The FCC grant became the catalyst for a process of masterplanning changes to the public spaces of the Museum over the coming years.

Masterplan specialists Land Design Studio provided the initial groundwork for the project, ahead of conceptual development for a second phase of redisplay in 2019. This followed Phase 1, also supported by FCC, which saw the installation of Out of the Deep in the south court in 2018.

Planning permission was granted to remove 12 of the old display cabinets that line the centre court, which were no longer fit for purpose in terms of protecting specimens, and FCC's grant was matched other donations to the Museum to fund the purchase of ten new showcases designed and manufactured by Click Netherfield. These were installed in summer 2020, with additional cases to follow in later phases.

Working groups compromising staff from Collections, Research and Public Engagement generated ideas for new main court permanent displays, dividing the space into five thematic zones under a scheme called *Life, As We Know It* with biodiversity in the centre; evolution in the north narrow aisle; Earth processes in the south narrow aisle; and ecosystems past and present in the south and north courts respectively. Design consultancy Easy Tiger Creative were engaged to begin work on the detailed design for the displays in January 2020.

Digital Adaptations

March 2020 saw the abrupt closure of the Museum building due the coronavirus pandemic and national lockdowns. After a brief pause to consider how best to respond, the museum decided that it wanted to deliver as much as possible to live audiences and to be seen as a place of debate and discussion. Colleagues responded with a series of bespoke, innovative activities during which teaching, public engagement, and research activities adapted for online formats to maintain partnerships and meet existing and new audiences through digital means.

HOPE for the Future

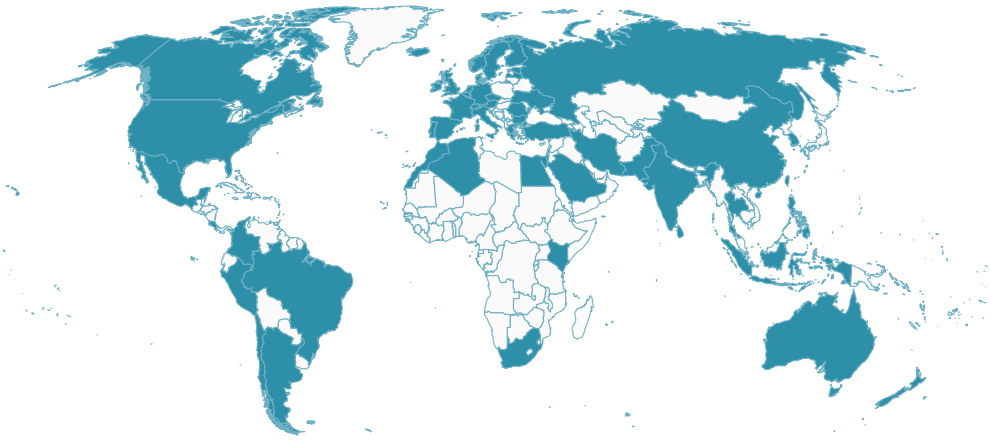
In the 2020 summer term, the Museum's Primary Education Officer partnered with local artists through Cowley Road Works Mother Earth Project to develop digital activities to support schools and families to deliver formal learning objectives. Children in East Oxford schools with high levels of Pupil Premium entitlement engaged with workshops including making paper insects, model bees and insect hotels. 155 children from the Virtual School, St Gregory the Great and St Francis School engaged with these home science and art learning projects.

The HOPE Learning Officers created six digital resources to help children develop scientific thinking and science capital. Used by local schools for in-class and at-home teaching, these activities focused on identifying species and exploring insect behaviour in their local outdoor areas.

First Animals at home

The Museum responded quickly to the changing circumstances, transferring the *First Animals* lecture series online, not only allowing the programme to continue, but also to dramatically expand its reach: there were 3,290 live views of the 11 events in the online programme, around three times the number of attendees that would have been expected had the same talks run in the physical Museum space (projected at 1,056 attendees, based on average attendance), rising to six times the number if subsequent views of the recordings are included (more than 6,500 views). The online programme opened up new opportunities for international audiences to engage, building on the interest already seen in the exhibition and onsite programme.

Below: world map with blue countries showing location of online talk live attendees



Ten new Museum showcases were installed in summer 2020

Research

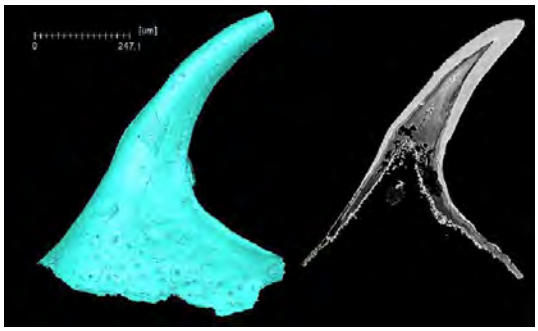
GLAM Engaged Research Showcase

The GLAM Engaged Research Showcase, which took place in the Weston Library on 27 November 2019, highlighted to the wider University some of the innovative research and public engagement with research projects taking place across the four University museums, the Bodleian Libraries and the Botanic Garden & Arboretum. The event featured research-focused talks, including one from Research colleagues on the origins of animals; interactive demonstrations, which included the chance to play the Gut Wars online game with members of the Public Engagement team; and an information fair with 17 stands highlighting research and public engagement projects from across GLAM, including digital morphology at the Museum of Natural History with Museum Research Fellows.

GLAM Engaged Research Showcase. Images courtesy of Ian Wallman

The Ins and Outs of Coniform Conodonts

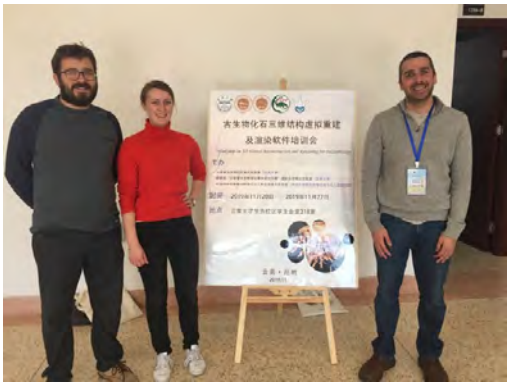
Over a period of six weeks from 31 January 2020, Isabella Leonard, 1st year Masters student at the University of Erlangen-Nürnberg, research trainee and Erasmus intern, worked with research colleagues on one of the most enigmatic microfossil groups: conodonts. These are a highly diverse group of extinct vertebrates, bearing the first phosphatic dental tools (elements) in their feeding apparatus. Very little is known about their mode of life. Isabella's research interest is the ecological evolution of early coniform conodonts (Ordovician–Silurian) and during her stay, she learned how to manipulate and evaluate synchrotron scans of conodont elements to get a direct insight into their internal structure and unique mode of growth.



Synchrotron scans of conodont elements

3D Fossil Visualisation Workshop

As part of the International Joint Laboratory for Palaeobiology and Palaeoenvironments, Museum Researchers visited Yunnan University in Kunming, southwest China, on 17 November 2019 to deliver a workshop on 3d visualisation techniques in palaeontology, with colleagues from South Africa and Australia. There were around 70 students from across China, learning five different pieces of software in just three days.



Dr Duncan Murdock, Dr Lauren Sumner-Rooney and Dr Imran Rahman who delivered the workshop

63rd Annual Meeting of the Palaeontological Association

Museum Researchers attended the 63rd Annual Meeting of the Palaeontological Association, which took place from 18-20 December in Valencia, Spain, during which Deputy Head of Research, Dr Imran Rahman delivered a keynote seminar for the opening session entitled “Virtual Palaeontology”. Colleagues also chaired sessions and authored several posters.

Dr Ricardo Perez-de la-Fuente, Prof. Paul Smith, Dr Duncan Murdock and Dr Frankie Dunn who attended the conference

Dr Imran Rahman delivering a keynote seminar

Collections

‘British insect collections at Oxford’s Museum of Natural History receive £700k National Lottery boost’

The Museum successfully secured £700k of National Lottery support for its ambitious HOPE for the Future – Heritage, Outreach and Preservation of Entomology project. The HOPE Project will re-house and make more accessible the Museum’s one million British insects, a collection which spans almost the entire history of British entomology. Amoret Spooner was seconded from the entomology team to oversee the collections move portion of the work as Collections Team Leader. Three Collections Assistants and one apprentice were been hired to form the team.

The project’s outreach and education programme took material from these collections into schools and rural communities across Oxfordshire, reaching both young and older people who may not otherwise have the opportunity to see these collections. Three Learning Officers joined the Public Engagement team in order to support the education and community outreach programme which will develop skills and inspire interest in British wildlife, conservation and the natural environment

Two new public areas will also be created inside the Museum. An important Pre-Raphaelite-designed space, the Westwood Room, will be restored to its original 1860 condition, featuring exquisitely painted wall borders, ceiling beams and entomological detailing. It will be opened to the public for the first time, as a multi-use space.

A new British insect gallery – the Ellen Hope Gallery – will be installed in the space adjoining the Westwood Room. Named after Ellen Hope, co-founder of the Hope Entomological Collections with her husband Frederick William Hope, the gallery will look at biodiversity, habitat loss, and the value of museum collections in documenting these changes and their impacts.

African Moths Project

The African Moths photography project was completed in August 2019, consisting of over 4,500 high quality images showing dorsal and ventral views of African moths from the Hope Collections, as well as the specimens' historical labels. The photos were made accessible via the African Moths website and will aid the identification of around 1,000 different species of African moth.

The Street Foundation (funders of the African Moths project) continued to support the entomology department with funding to enable the beetle type specimens within the collection to be photographed. This included many notable specimens such as Hope's stag beetles, Chevrolat's Carabidae, Jekel's Curculionidae and specimens collected by Darwin, Wallace, Westwood and Bates. The images are all available online via the Museum's Collections Online website.

The Africa moths are, clockwise from top left: *Lamprochrysa scintillans; Eudaemonia argus; Athletes gigas; Halseyia lacides; Chrysiridia croesus; Thaumetopoea apologetica; Massaga hesparia; Cyclopera bucephalidia*

New Live Insect Tanks

The live insect tanks on the entomology gallery have been in the museum for at least 15 years and have always proved a popular attraction. However, the tanks were beginning to look tired and not so escape proof, and it was decided a refresh was in order.

Colleagues worked with DMS Vivaria to make a trial tank in early 2019, and in November of the same year, the final three tanks arrived. With the help of colleagues from around the Museum, new and fresh live insect displays were created for the public to enjoy.

Left: The old insect tanks;
Right: The new insect tanks

Reorganising the Archive

The Print & Digital team spent the latter part of 2019 reorganising the archive. Previously the archival boxes were organised by collection (Geology and Mineralogy, Zoology, etc.) and then further organised alphabetically. As the archive collection expanded over the years, this arrangement was decided to be no longer fit for purpose. To simplify the system, the boxes were reorganised alphabetically by surname or title regardless of its collection of origin. Additional benefits of the reorganisation included relabelling the aisles and shelves, re-boxing several of the collections into conservation grade storage, providing dedicated storage for the oversized items.

Reorganised archive boxes

Launch of New Collections Online Site

In October 2019, the Museum's new Collections Online site was launched, allowing visitors from anywhere in the world to search the Museum's digitally catalogued collections and view records and images. More specimens and objects were made accessible online than ever before; the new site launched with 490,500 records, more than ten times the number available before. For the first time there was a central location from which to search the catalogues of the Archive, Entomology, Mineralogy and Petrology, Palaeontology and Zoology Collections. Representing a major step forward in improving access to the Museum's collections, the new site was the result of a year-long project carried out by the Print and Digital Team alongside colleagues from Collections, Digital Engagement, GLAM Digital, Museums IT, and IT Services Web Development.

Collections online homepage

The Campbell Collection's Capercaillie

In 1972 the Museum accepted a large donation of taxidermy specimens from the late J.W. Campbell, consisting mainly of British birds and a few smaller mammals. A total of 388 birds and 18 mammals from the collection survive to this day and some can still be found on public display, such as this capercaillie case on the South side of the museum.

In October 2019, J.W. Campbell's family got in touch with the Life Collection team and enjoyed a behind the scenes tour of their ancestor's historic collection.

Campbell Collection capercaille

Up Pompeii

The Environmental Archaeology Unit of the Museum of Natural History undertook some of the research on which the *Last Supper at Pompeii* exhibition at the Ashmolean (25 July 2019 – 12 January 2020) was based and contributed specimens from their excavations at Pompeii to the display, mainly the foodstuffs themselves. The results show that the inhabitants of Pompeii enjoyed a varied diet including a range of fruit, domestic animals, fish, and the occasional dormouse. This exhibition and the *Settlers* exhibition at the Museum of Natural History (9 February – 16 September 2018) both demonstrated the value of inter-museum co-operation.

Excavation at Pompeii

Monica Price receives the A. G. Brighton Medal Award 2019

On 10 December 2019, Honorary Associate, and former head of Earth Collections, Monica Price was presented with the A. G. Brighton Medal at the 2019 Annual General Meeting of the Geological Curators' Group (GCG). The Chair of GCG, Matthew Parkes, said, "Monica has embodied all of the facets of a geological curator that the Brighton Medal is intended to acknowledge. As well as recognising the absolutely vital role Monica fulfilled in the fundamental care of mineral and rock collections, the Award celebrates her important contributions in fostering our profession through active involvement in GCG and other fora and her significant work in raising awareness of the importance of collections".

The Brighton Medal was instigated in 1992, and is awarded once every three years for outstanding service to geology in museums. Monica retired as Head of Earth Collections in March 2018 and has been an Honorary Associate at the Museum since. Only twelve medals have been awarded to date and, with the exception of Bertie Brighton's widow, Monica is the first female recipient.

Monica Price receiving the A. G. Brighton Medal Award 2019

Upper Thames Pleistocene Project

In August 2019, Neil Owen started work with the Earth Collections team as project officer for the Upper Thames Pleistocene Project, cataloguing, photographing and 3D scanning the Upper Thames Pleistocene collections (mainly from Oxfordshire). This included a major new acquisition of around 6,750 specimens as well as historical material collected by William Buckland, John Phillips and Joseph Prestwich.

Neil Owen, Project Officer on the Pleistocene Project

A new dinosaur arrives

In December 2019, a partial skeleton of the Cretaceous dinosaur *Mantellisaurus atherfieldensis* was donated to the Museum by Dr William Blows. It was collected by Dr Blows in 1972, and features in his book, *Reptiles on the Rocks*, as the first of several important dinosaur discoveries that he made on the Isle of Wight. The specimen comprises a long series of vertebrae and a beautifully preserved pelvic girdle. It even featured in the TV science show Don't Just Sit There, hosted by the late David Bellamy.

Part of the Cretaceous dinosaur *Mantellisaurus atherfieldensis*

Megalosaurus jaw 50 pence piece

In January 2020, The Royal Mint introduced three new dinosaur 50 pence coins, one of which featured the Museum's very own *Megalosaurus* jaw. This news featured on the Museum's social media, as well as the main Oxford University Twitter channel.

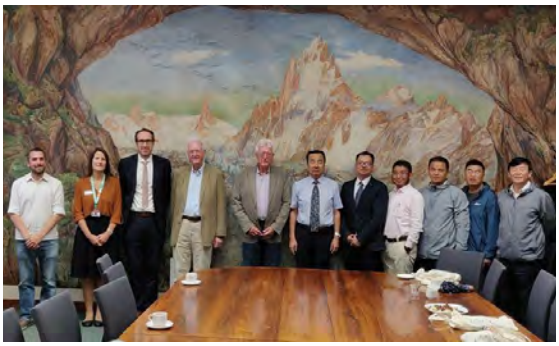
A brand new 50 pence piece featuring *Megalosaurus*

Partnerships

The Museum of Natural History welcomes Yunnan University delegation

On 16 August 2019 the Museum welcomed a visiting delegation from Yunnan University in China. This included the Vice President of the University, the Deputy Headmaster at Yunnan University Secondary School and the Deputy Director of the Key Laboratory for Paleontology.

Together, the Museum of Natural History and Yunnan University formed a major new partnership (the International Joint Laboratory for Palaeobiology and Palaeoenvironment), which facilitated the loan of 55 of the exceptionally preserved fossil specimens displayed within the *First Animals* exhibition. The visitors were given a tour of the exhibition and were shown highlights from the Museum's Earth and Life Collections.



The delegation from Yunnan with Museum and GLAM staff

XR at the Museum: Heading for Extinction

The 28 September 2019 saw the Museum's first joint event with Extinction Rebellion as part of the human impact programme. The day was aimed at giving voice to established members of the group to explain their ethos and engage with others on the current biodiversity and climate change crises.

The event attracted over 5,800 people to listen to talks, take part in workshops, create art, listen to stories and join large dance performances under the colourful, hand-printed banners of species at risk of extinction. XR youth leaders, dressed in masks representing British species in population decline, mixed with visitors and showed matching specimens supplied by the Life Collection team. The Public Engagement team illustrated bee diversity using specimens from the Museum's collections and discussed insect declines and the essential ecosystem services this threatens. Conservation Optimism also returned to the Museum and ran stop-motion animation workshops as they showed how to promote positive actions people can take to halt biodiversity loss.

Right: XR performers in the Museum

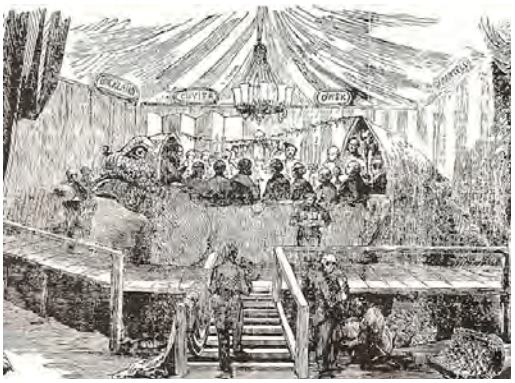
Oxfordshire Mammal Group

In October 2019, the Museum's partnership with Oxfordshire Mammal Group reawakened after its summer diapause for survey work for another winter series of lectures kicking off with a well-attended lecture by Frazer Coomber, Research Officer for the Mammal Society. Having been involved in compiling the latest 'the State of Nature' report released at the beginning of the month, which detailed the rapid decline of a quarter of all British mammal species to a point of their predicted population collapses, Frazer was ideally placed to discuss the findings of the report and discuss the potential causes and solutions. Many of the audience were also persuaded to download the new 'Mammal Tracker' app onto their smartphones to help add to our understanding of current distributions and populations.

Water vole, photograph by Nicola Devine

The Museum at the IF Festival

In October 2019, the Public Engagement team and Museum researchers supported the Oxford-wide IF Festival at the Westgate shopping centre. Colleagues took along dinosaur and marine reptile related specimens to support a theatre performance called The Iguanodon Restaurant, directed and produced by theatre company Emerald Ant. The 40-minute performance was inspired by the famous banqueting scene where a group of academics were invited to dine inside one of the famous dinosaur sculptures now displayed at Crystal Palace. On the day, colleagues spoke to around 250 passers-by, many of who were very interested to find out more about Mary Anning who featured in the performance.



Top: Iguanodon Restaurant performance with Mary Anning

Above: The Dinner in the Dinosaur, sketch by Benjamin Waterhouse Hawkins, published in the *Illustrated London News*, 7 January 1854

Brasier Internship Part 2

Following on from 2018, the Museum once again collaborated with the Department of Earth Sciences to continue the documentation, re-boxing and moving of the remaining Earth Science Brasier petrological material to the Museum. The Department of Earth Sciences funded the project, and Hiroki Nagao was selected to undertake a six-week internship, moving over 3,000 individual objects, equating to over a tonne of material.

Repacked box containing repacked Brasier collection specimens

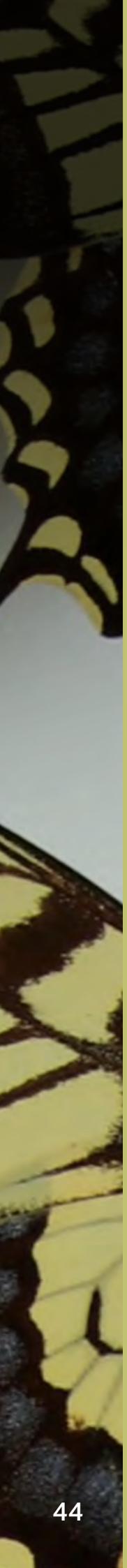
Running the Museum

A True Museum Marvel

Both the Museum of Natural History and the Pitt Rivers Museum closed for two days on 7 and 8 January 2020 whilst the Museum of Natural History played host to a film crew producing the Hollywood movie The Eternals. The crew rigged an enormous lighting bar on a crane above the roof, the lawn was transformed into a lorry park, the film's art department stippled statues to match the stonework of the Museum, and they built very convincing matching display cases to house prop specimens. Collections and operations teams worked hard to prepare the North Court and manage the crew, and colleagues watched with bated breath to see whether an enormous taxidermy giraffe would fit through the main entrance (it did!).

Front-of-House feature in the Museums Journal

The Museum's Front of House Manager, Clare Denton, appeared in the article *My House is Your House*, within the February 2020 issue of the Museums Journal. The article shone a spotlight upon the invaluable work carried out by front-of-house teams, accurately noting that the sector would be unable to operate as effectively as it does "without their boundless enthusiasm, fantastic knowledge and can-do attitude".



Appendices

Appendix 1
Visitors of the Oxford University Museum of Natural History
31 July 2020

Ms Carole Souter CBE (Chair)
The Pro-Vice-Chancellor (Gardens, Libraries and Museums): Professor Anne Trefethen
Senior Proctor: Professor Simon Horobin
Professor Christopher Ballentine
Dr Elizabeth Jeffers
Dr Jamie Lorimer
Professor E.J. Millner-Gulland
Professor Thomas Richards
Dr Erin Saupe
Dr Laura Van Broekhoven
Professor William Whyte
Professor Paul Smith (Secretary to the Board)

Appendix 2
People

Staff of the Museum 2019-20

Director Professor Paul Smith
Deputy Director Janet Stott
Administration Manager Emma Thomas (to October 2019)
Museum Executive Assistant Hannah Betts

Life Collections

Acting Head of Life Collections Zoë Simmons
Head of Life Collections Darren Mann
Conservator Jacqueline Chapman-Gray
Collections Managers Mark Carnall, Dr James Hogan, Eileen Westwig (to July 2020)
Collections Assistants Robyn Crowther, Robert Douglas
Image Technician Katherine Child

HOPE for the Future Project

Collections Team Leader Amoret Spooner
Collections Assistants Louis Lofthouse, Ryan Mitchell, Steven Williams
HOPE Apprentice Tom Greenway

Earth Collections

Head of Earth Collections Eliza Howlett
Collections Managers Hilary Ketchum, Robert Knight (to December 2019)
Earth Sciences Conservator Juliet Hay
Project Officer Neil Owen

Research

Head of Research Professor Paul Smith
Deputy Head of Research Dr Imran Rahman
Senior Researcher Dr Sammy De Grave
1851 Research Fellow Dr Frances Dunn
Museum Research Fellows Dr Jack Matthews, Dr Ricardo Pérez-de la Fuente, Dr Lauren Sumner-Rooney
Leverhulme Research Fellows Dr Duncan Murdock, Dr James Neenan (to May 2020)
Palaeobiology Technician Dr Carolyn Lewis
AHRC CDP Researchers Elaine Charwat, Helen Goulston, Ellie King, Susan Newell

Archives and Library

Head of Print & Digital Kate Diston (to July 2020)
Librarian Danielle Czerkaszyn
Digital Collections Manager Dr Sarah Joomun
Documentation Officer Sophie Misson (to March 2020)
Museum Archivist Emily Chen (to January 2020)

Public Engagement

Head of Public Engagement Janet Stott
Head of Education & Learning Sarah Lloyd
Digital Engagement Manager/Redisplay Project Manager Scott Billings
Digital Content & Analysis Manager Georgina Brooke (to December 2019)
Digital Content Officer Rosanna Hayes
Education Officers Jenny Hulmes, Chris Jarvis, Ana Wallis
Education Bookings Assistant Michelle Alcock
Exhibitions Officers Katherine Clough, Ellie Grillo, Dr Kelly Richards, Vanessa Moore (to July 2020)

HOPE for the Future project - learning

Project Manager Anna Jones
Learning Officers Rodger Caseby, Susannah Glover, Kate Jaeger

Operations

Head of Operations Wendy Shepherd
Events Manager Laura Ashby
Deputy Events Manager Megan MacLean
Accounts Anne Atkinson, Melanie Adams (to April 2020)
Front of House Manager Clare Denton
Deputy Front of House Managers Michelle Alcock, Julia King
Visitor Services Assistants Steve Cole, Julia King, Gemma Allerton, Jane Griffin, Safron Marriott (to February 2020), Navigator Ndhlovu, Robert Parker, Emma Ware
Building Manager Peter Johnson
Museum Maintenance Technician Adam Fisk (to December 2019), Cara Powell
Maintenance Support Gary Coates
Retail Manager Fitri Puspitasari
Shop Assistants Corinna Crowther (to March 2020), Chantelle Dollimore (to March 2020), Thomas Edgeworth, Georgina Hardy (to January 2020), Lucy Shott

Gardens, Libraries & Museums shared services

Divisional Secretary/Chief Operating Officer for GLAM Kevin Rodd
Head of Partnerships and Programmes and Programme Director for Oxford Cultural Leaders Lucy Shaw
Projects Officer and Oxford Cultural Leaders Co-ordinator Emma Thomas
Head of Volunteers and Community Engagement Joy Todd
Community Engagement Officers Nicola Bird, Susan Griffiths, Beth McDougall
Volunteer and Outreach Officer Dr Caroline Moreau
Volunteer and Community Engagement Assistant Hayleigh Jutson
Arts Engagement Officer Miranda Millward

Research and Impact Manager Dr Harriet Warburton
Research and Impact **Support Officer** Emma Webster

Interim Head of Communications and Marketing Suzanne de la Rosa
Administrative and Communications Assistant Jasmine Gauthier

Gardens, Libraries & Museums shared services Cont.

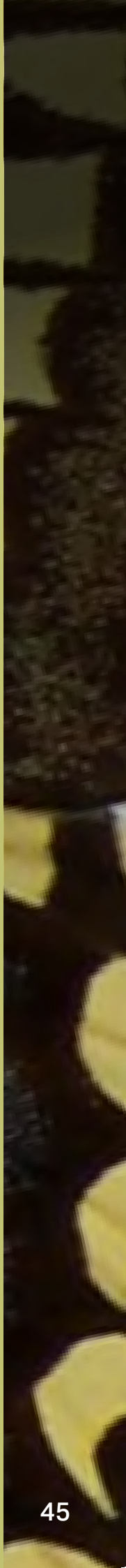
Head of Assessment and Evaluation Rozia Hussain
Data Analyst Ramesh Narayan
GLAM Collections Project Manager Harry Phythian-Adams
GLAM Collections Move Team Leader Rosie Hughes

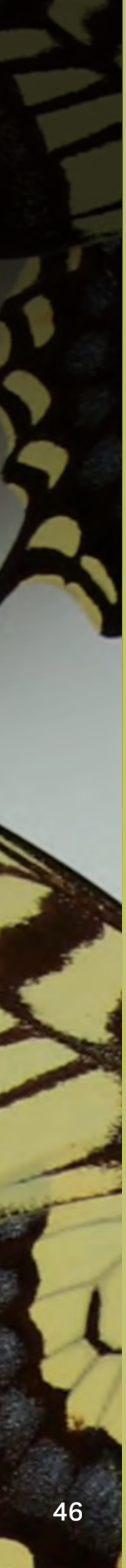
Digital Strategy Programme Manager Nick Perry
Digital Engagement Lead Jenny Townshend

Head of IT (Museums & Gardens) Haas Ezzet
Commercial Systems Manager Helen Mouldon
Systems Architect and Network Manager Anjanesh Babu
IT Service Manager Carl Parker
IT Officer Amanda Clark, Alex Duta
Systems Officer Daniel Pull

Honorary Associates

Mr John Cooter
Professor John Holmes
Dr John W. Ismay
Dr Jeyaraney A. Kathirithamby
Dr Tom S. Kemp
Professor W. Jim Kennedy
Dr George C. McGavin
Ms Malgosia Nowak-Kemp
Mr Roy Overall
Ms Sarah Phibbs
Dr Adrian C. Pont
Mr H. Philip Powell
Monica Price
Professor Derek Siveter
Ms Sally-Ann Spence
Mr John Tennent
Mr Chris A. O'Toole
Dr Dave Waters





Appendices

Appendix 3
Finance

Grants Awarded & Donations Received

The Museum is extremely grateful to the many individual donors, foundations and trusts who have generously contributed to its work in 2019/20.

£2,000
Belacqua Charitable Trust
HOPE for the Future

£976
H A. Carey

£92,500
EPA Cephalosporin Fund
First Animals exhibition

£10,000
Evolution Education Trust
HOPE for the Future

£210,422
FCC Communities Foundation Ltd
Main Court redisplay

£138,303
National Lottery Heritage Fund
HOPE for the Future

£61,480
Negaunee Foundation

£108,936
Edward Penley Abraham Cephalosporin Fund
HOPE for the Future

£18,044
Edward Penley Abraham Cephalosporin Fund
Question of Taste Workshops

£115,200
Street Foundation
The Oxford Mammoth Project

£20,059
Street Foundation
Digitisation of insect type specimens

Research Grants

£3,800
Merton JRF (Junior Research Fellowship)

£144,000
Royal Commission for the Exhibition 1851,
The rise of animals: challenging 'Darwin's dilemma'

£53,879
NERC (Natural Environment Research Council)
Investigating the genomic and phenotypic consequences of recurrent whole genome duplication in spiders

£20,102
Social Sciences Division
Developing evidence-based geoconservation policy frameworks through partnership between scientists, local authorities, agencies, user groups, and land management organisations

£105,803
Leverhulme Trust
Evolution and development of a highly variable visual system in spiders

£150,000
GRF (General Research Fund) Hong Kong
On the origin of Southwest China biodiversity hotspot: a biogeographic study of atyid shrimps

Appendix 4
New Acquisitions 2019–20

Archive and Library Collections

57 journals were subscribed to and a further siz were donated, containing 196 parts and comprising 1.22 linear metres. Twelve 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 from Graham Elmes (45 books on ants).

No items were donated to the archive collection.

Appendix 4 Continued
New Acquisitions 2019–20

Earth Collections

A total of 7 accession lots comprising around 79 specimens were received by donation, purchase or exchange. Notable accessions donated during the year included:

Invertebrates from the Cretaceous of the UK, the USA and Morocco (71 specimens, from Andrew Gale)

Specimen of Miss Phillips's Conglomerate from the Llandovery Series, Silurian of Sycamore Tree exposure, Malvern Hills (1 specimen, from Peter Bridges, Moira Jenkins and John Payne)

Painted casts of the skull (cranium, left and right dentaries) of Artiocetus clavis cranium and dentaries from the Eocene of Pakistan (3 specimens from the University of Michigan, cast exchange)

Partial skeleton of Mantellisaurus atherfieldensis from the Lower Cretaceous of Compton Bay, Isle of Wight (1 specimen, from William Blows, gift)

Plaster cast of Haootia quadriformis, Fermeuse Formation (Ediacaran) of Newfoundland, Canada (1 specimen, from Alexander Liu)

Life Collections

A total of 20 accession lots comprising 30,010 specimens were received by donation to the collection. Notable accessions donated during the year included:

A comprehensive collection of British beetles of the family Carabidae, representing a large portion of the British species. (6000 specimens, from P. Whitton, gift)

A large donation of British insects from the orders Hemiptera, Orthoptera and Odonata. (1718 specimens, from George Ryle)

The historic collection of clutches of bird eggs dating from 1894 – 1938. The specimens were collection by renowned British ornithologists R. Calvert and Bernard Tucker, who was a lecturer at the University of Oxford. (1553 specimens, gift)

A large collection of insect specimens from the British Isles and the Iberian Peninsula. (6000 specimens, from D. Keen, gift)

Appendix 5
Loans 2019–20

Earth Collections

A total of 16 loans of 116 specimens were provided, of which 14 were to the UK, one to Switzerland and one to the USA.

Life Collections

A total of 42 loans of 1,546 specimens were provided, of which 25 were to the UK, eight to the EU and nine to the rest of the world.

Archive and Library Collections

There was one loan to the Thelma Hulbert Art Gallery in Devon, UK.

Appendix 6
Enquiries 2019–20

The Museum answered 1059 enquiries in the year.

Earth Collections

Staff dealt with 396 enquiries.

Life Collections

Staff dealt with 529 enquiries.

Print & Digital Collections

Staff dealt with 134 enquiries.

Appendix 7
Official Visitors 2019–20

Earth Collections

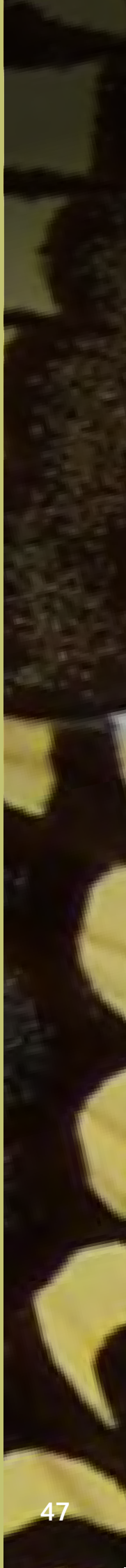
There were 84 collections visits, of which 58 were from the UK, 16 were from other EU countries and 10 were from other countries.

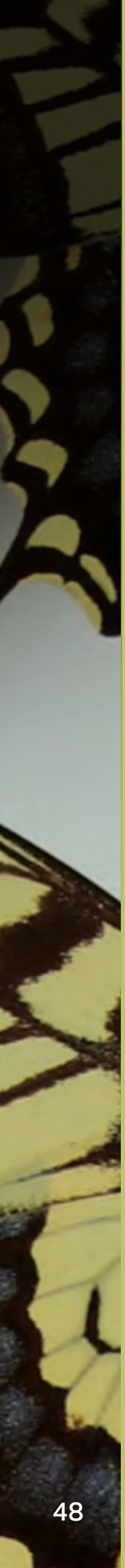
Life Collections

There were 186 visitors in total, of which 109 visits were from UK residents, six from other EU residents and 11 from residents of other countries.

Print & Digital Collections

There were 73 visitors in total. The majority of visitors were from the UK (72).





Appendices

Appendix 8
Publications by Museum staff
1 January to 31 December 2019

Members of OUMNH staff indicated in **bold;** OUMNH Honorary Associates indicated in ***bold italics.*** In addition to these publications, 55 journal articles and one monographs were published on the collections by external researchers.

Anker, A. & **De Grave, S.** 2019. Further records of burrow-associated palaemonid shrimps (Decapoda: Palaemonidae). *Zootaxa*, **4612,** 145–150. DOI:10.11646/zootaxa.4612.1.13

Aronson, J. K., Barends, E., Boruch, R., Brennan, M., Chalmers, I., Chislett, J., Cunliffe-Jones, P., Dahlgren, A., Gaarder, M., Haines, A., Heneghan, C., Matthews, R., Maynard, B., Oxman, A. D., Oxman, M., Pullin, A., Randall, N., Roddam, H., Schoonees, A., Sharples, J., Stewart, R., **Stott, J.**, Tallis, R., Thomas, N. & Vale, L. 2019. Key concepts for making informed choices. *Nature*, **572**, 303–306. DOI:10.1038/d41586-019-02407-9

Bidgood, A. K. & ***Waters, D. J.*** 2019. The secret life of granite: A story of emplacement, alteration, subduction and metamorphism. *Applied Earth Science*, **128**(2), 38–38. DOI:10.1080/25726838.2019.1598642

Cabrera-Cánoves, P., Pujade-Villar, J., & ***Pont, A. C.*** 2019. The first record of the pantropical filth fly *Atherigona orientalis* Schiner from mainland Europe and another record of *Synthesiomyia nudiseta* (van der Wulp) from Spain (Diptera: Muscidae). *Entomologist's Monthly Magazine*, **155**(4), 277–280. DOI:10.31184/M00138908.1554.3998

Chen, E. 2019. The no-nonsense guide to born-digital content. *Archives and Records*, **40**, 230–232. DOI:10.1080/23257962.2019.1606704

Christodoulou, M., Iliffe, T. M. & **De Grave, S.** 2019. A new anchialine cave dwelling species of *Potamalpheops* Powell, 1979 from the Solomon Islands (Crustacea, Decapoda, Alpheidae). *Crustacean Research,* **48**, 11–21. DOI:10.18353/crustacea.48.0_11

Cooter, J. 2019. Further records of uncommon insects in Herefordshire, 2018. *Entomologist's Monthly Magazine*, **155**, 226–228. DOI:10.31184/M00138908.1554.4002

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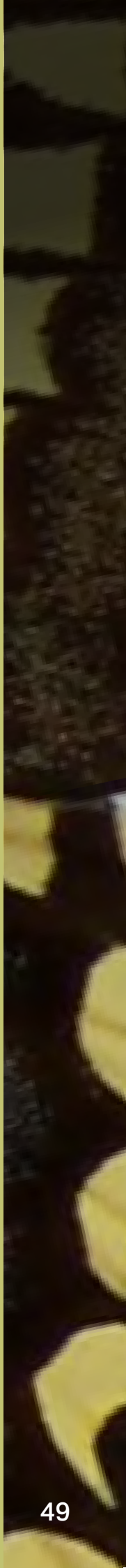

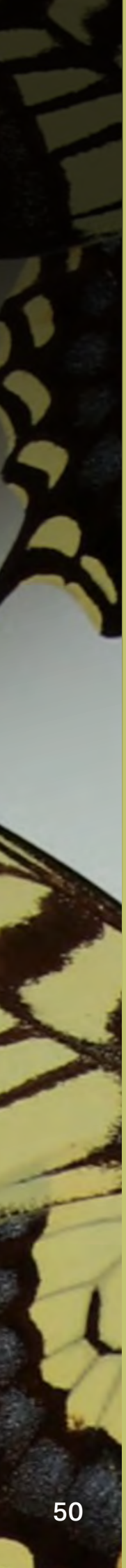

Appendices

Appendix 8
Publications cont.

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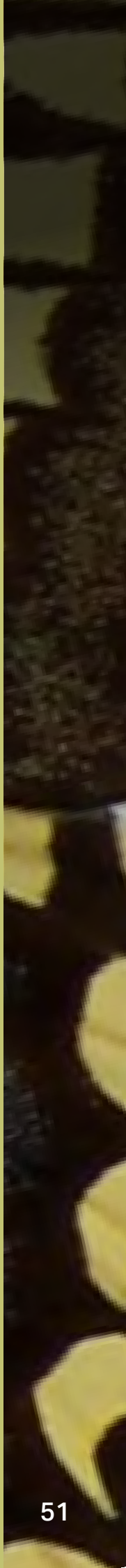

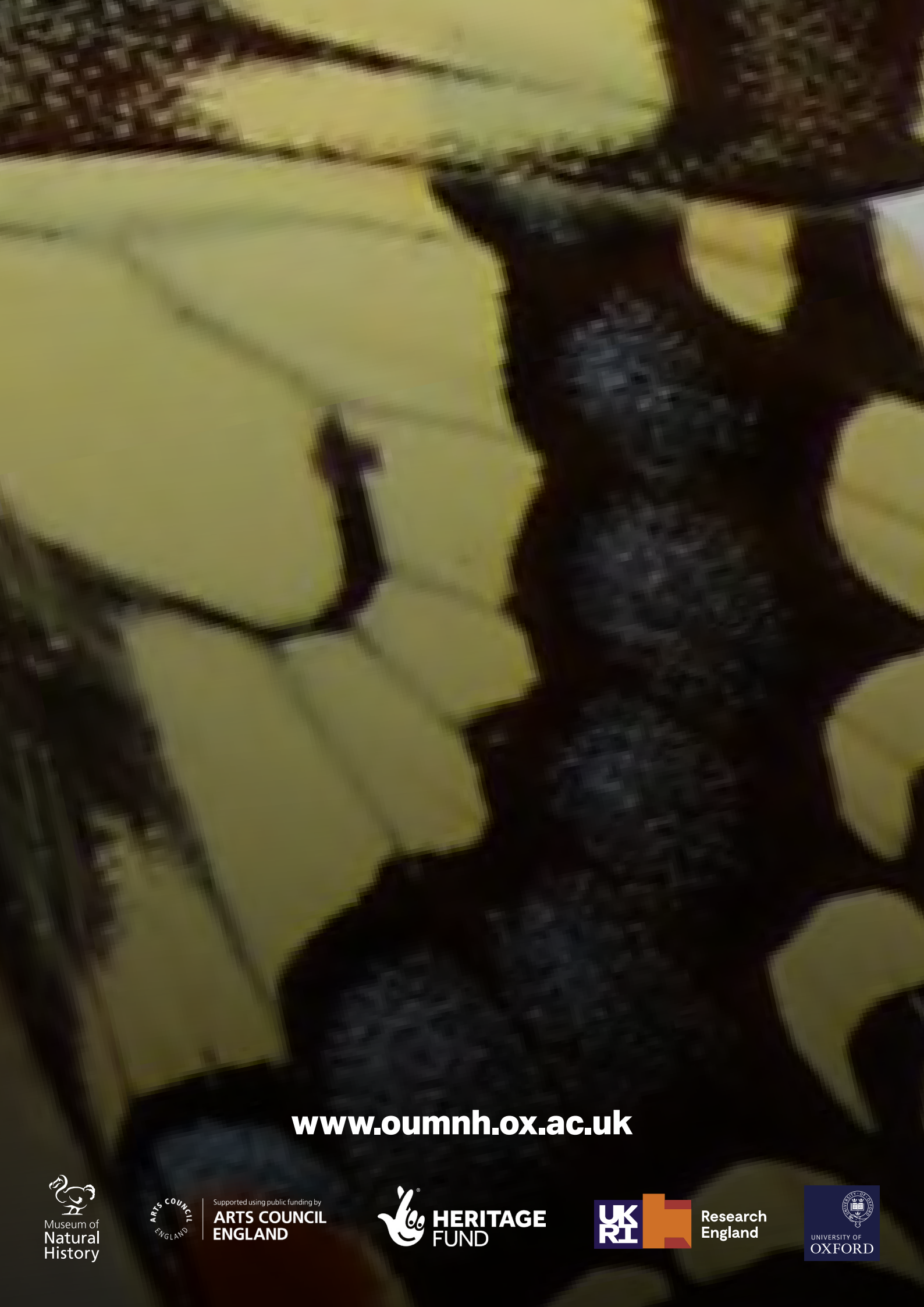

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