OXFORD UNIVERSITY MUSEUM OF NATURAL HISTORY

Annual Review

2013–2014

Museum of
Natural
History

The Oxford University Museum of Natural History Annual Review 2013–2014 was edited from reports supplied by heads of Collections, Sections and Research Units.

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Photographs are by members of the Museum staff unless stated otherwise.

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Director's Introduction

In last year's review I remarked on how our normal activity was interrupted by preparations for the closure of the Museum ahead of extensive roof repairs. This year sees us emerging from the other side of that process to reopen to the public after 14 months in what we described as our 'darkened, not dormant' state.

The £2m roof restoration, carried out by the University Estates Services, architects Purcell and contractors Beard, involved the removal, cleaning, replacement, and resealing of more than 8,500 large glass tiles. The last of these were successfully reinstalled just before Christmas when the final push towards reopening began.

Our reopening campaign grew out of the Goes to Town city centre displays that helped to maintain the Museum's presence in Oxford during the closure. As the reopening day approached, the animals in these displays began to return in preparation for a welcome-back party, as promoted in a series of Museum 'news reports' that were released online in the build-up to reopening day.

Bringing the Museum back to life was a welcome experience. On 15 February we opened dawn-till-dusk, starting with breakfast at 7am to showcase our new café facilities, before launching into a day of celebratory activities including live music, talks, roving staff with specimens, and well over 5,000 visitors.

Away from the frenzy of the reopening party a great deal of other important work was taking place. The Lepidoptera Project, funded by The Street Foundation, began a task to arrange, conserve, catalogue, and digitise the Museum's butterfly and moth collections. Further digitisation work saw two important archive collections becoming available online for the first time: those of pioneering 19th-century geologist William Smith, and the painted butterfly and moth manuscripts of 18th-century amateur lepidopterist William Jones.

Meanwhile, our Once in a Whale project brought some much-needed conservation treatment to the seven cetacean specimens on display in the main court. Funded by a PRISM grant from the Arts Council, Once in a Whale gained positive media coverage and received a 'Highly Commended' accolade in the 2014 Museums + Heritage Awards.

Research work stepped up during the year, with additions to our research fellows bringing particular expertise in the areas of the Cambrian Explosion, micropalaeontology, and ocean ecosystems. We also dipped our toes into the water of temporary exhibitions with the Wildlife Photographer of the Year show during the summer. This is something we hope to build on with our own special exhibitions in the future.

Looking beyond the walls of the Museum, a pilot initiative called Count Me In helped to diversify our pool of volunteers by supporting adults who face barriers to volunteering. The ten-week support programme was developed and run by the Oxford University Museums Volunteers Service and it resulted in positive outcomes for both the Museum and the scheme's participants.

Our reach into the wider world was also bolstered online with the launch of the Museum's first permanent blog, morethanadodo.com, to coincide with the reopening. More than a Dodo offers readers a window into many areas of activity at the Museum, from work on the collections, to events, exhibitions, education programmes, and research. Complemented by the @morethanadodo Twitter account, the Museum's online presence continued to grow.

Looking back over the year it is clear that while a prolonged closure period is difficult for a museum it also presents significant opportunities. We were able to begin putting in place aspects of our new strategic plan but also to experiment with some creative and more unusual ideas. Perhaps most importantly, the closure and reopening provided a stimulus for staff to pull together and reimagine the Museum, giving us a re-energised outlook as we plan for the future.

Professor Paul Smith
Director

Highlights

Into the Light

On Saturday 15 February 2014 the Museum reopened its doors after 14 months of darkness to restore the uniquely impressive, but very leaky glass roof. This £2m restoration project involved each of the 8,500 glass roof tiles being individually removed, cleaned and resealed, and a new lighting system being installed. The reopening was celebrated with a spectacular dawn-till-dusk programme of events.

Visitors were able to enjoy breakfast from 7am at the Museum's new gallery cafe, run by Mortons of Oxford, while overlooking the skeletons below. The events continued with live music in the court from Alternotive acapella group and Spotlight Specimens; featuring museum staff dotted around the building with their favourite objects.

There were talks on the Museum's whale conservation project, 'Once in a Whale', and Director Paul Smith delivered an opening speech and announced the winners of the museum's 'Goes to Town' trail competition.

Right: Crowds enjoying a performance by the Knights of Mentis on reopening day

Visitors of all ages were enthralled by live bugs in the afternoon and listened intently to a talk on Acland's Amazing Edifice. The Knights of Mentis rounded off the day's programme with more live music as the light started to fade in the court at 7pm. The public were given the chance to bask in the spectacle of the museum illuminated by the new state-of-the-art LED lighting as they filtered through the doors. The Museum welcomed over 5,300 people on its reopening day.

The frenetic pace continued through the week as half term followed. Hundreds of children made Dodo masks and *T. rex* finger puppets during the Family Friendly activities, and then later in the week there was a surprise appearance of creatures from the Dinosaur Zoo stage show; one of which was a five-metre Australovenator 'puppet' which roamed through the court. By the end of the reopening week more than 30,000 people had been through the doors — a new record for the Museum. ●

Count Me In

In 2013-14 the Oxford University Museums Volunteers Service piloted Count Me In, a ten-week programme aiming to encourage diversification in the Museum of Natural History's volunteer workforce.

Count Me In supported adults who face barriers to employment by helping them to have a taste of volunteering roles and to develop transferable skills for future employability, education or volunteering.

Participants were recruited through working with our Community Engagement Officers, Job Centres, sheltered housing, Children's Centres, Oxfordshire Learning Network, MIND charity, and refugee and probation services. Ten individuals were recruited, ranging in age from 18-65 and none educated to degree level. The group represented an array of barriers including social anxiety, stress-related epilepsy, agoraphobia, depression, Asperger syndrome, learning disability, and homelessness.

The cohort participated in three half-day sessions a week. In the first they participated in an accredited Customer Service Course by the Oxfordshire County Council. In the second they gained general transferable skills through training sessions, talks by expert speakers, museum visits, and advice from professional career development officers. In their third session they participated in a volunteer opportunity within the museum, changing every three weeks.

By the end of the course, each participant had overcome a major hurdle. All participants said that they would not have volunteered without the structure and support that Count Me In provided, and said that the group dynamic encouraged them to complete the full programme. Feedback from staff who worked with Count Me In volunteers was overwhelmingly positive, with at least four of the volunteers being offered ongoing opportunities to continue engaging with the Museum. ●

Lepidoptera Project

The Lepidoptera Project is a two-year, large-scale collections management and curation project. Funded by The Street Foundation, Molly Carter and Gina Allnatt have undertaken the task to re-arrange, catalogue and digitise the Museum's Lepidoptera collections.

Seven months into the project Molly and Gina have already catalogued 50,000 specimens and completed remedial conservation, such as repairing the wings and bodies of any damaged specimens as they work through the drawers that make up the collections. Over 50 putative type specimens have been discovered, they include those of Walker, Hampson, Guenée, Strand, Druce, Newman, and Swinhoe.

In addition to repairing and recording the genus and species of each specimen, there has been a focus on identifying 'lost' type specimens. Specimens collected by Charles Darwin, Alfred Russell Wallace, and Henry Walter Bates have been found in the moth collections, as well as drawings of caterpillars by Frederic Moore, five species of extinct moth and most recently, a butterfly from Tonga that was collected on the H.M.S. Challenger expedition in 1874.

Molly and Gina have been responsible for handling enquiries about the Lepidoptera collections.

A six-week internship to work on the Sudanese butterfly material has been facilitated and the volunteers working on the Jones' *Icones* project have received training as part of the Lepidoptera Project. ●

Celebrating Wallace

In November 2013 the Museum marked the centenary of the death of Alfred Russel Wallace. The Museum holds a large number of Wallace specimens and over 300 of his letters in the archives. As part of International Wallace week, Darren Mann, Head of Life Collections, spoke at the 2nd International Conference on Wallace in Sarawak, Malaysia. Darren's was the final keynote speech of the conference on 'Wallace insects in Oxford — their History and Value'. Darren took some Wallace specimens from the Museum to show to delegates and presented one of the Wallace beetle specimens to the Deputy State Secretary on behalf of the Sarawak State.

As part of the Museum's Wallace celebrations, Education Officer Chris Jarvis and Head of Life Collections Darren Mann gave a talk at the Sedgwick Museum in Cambridge. Chris read abstracts from Wallace's autobiography which were contrasted with Darren's own experiences in the Malay Archipelago. Once again the Museum's Wallace specimens were presented, with attendees enjoying the chance to examine genuine Wallace letters from the archive.

Coinciding with the Wallace celebrations, Athena Martin, a student from Wood Green school in Witney completed a Nuffield Research placement at the Museum in summer 2013. Athena spent time looking through the butterfly collections and discovered 300 Wallace specimens within the Museum collections, including the *Dismorphia* butterfly found in the Amazon. The specimens subsequently travelled to appear on the One Show on BBC 1 for the public to see on live television. Many of Wallace's Amazon specimens were lost on his journey home, when his boat is thought to have caught fire. However, the Museum is now building up a very clear picture of just how many precious Alfred Russel Wallace specimens it has and, thanks to Athena's diligent work, these significant specimens are easy to locate. ●

Above: *Urania sloanus* (Cramer 1779) — one of the extinct specimens found in the Museum's Collection during the project

Left: Athena Martin holding a Kite swallowtail butterfly specimen collected by Alfred Russel Wallace

Once in a Whale

During the year of closure, the Museum embarked on the 'Once in a Whale' project. This large project, led by Life Sciences conservator Bethany Palumbo, focused on the conservation treatment of seven articulated cetacean skeletal mounts; five of which had been suspended from the museum roof for the last 150 years. Having been exposed to constant UV radiation through the glass roof and temperature and humidity fluctuations, they were in great need of conservation treatment. The project, funded by a PRISM grant from the Arts Council, had two main objectives; to preserve the longevity of these display specimens and to make them a more prominent feature of the museum, by improving their visual aesthetics and scientific accuracy.

For the duration of the project, tours of the workspace for the public and school groups were offered, giving visitors the unique chance to see the specimens up close. There were also windows between the work space and the public, allowing visitors to watch the conservators working live.

The use of social media, both through the project's blog 'www.onceinawhale.com' and the Museum's Twitter account (@morethanadodo), helped publicise the work and the Museum itself. Consequently, the project was picked up and publicised by professional conservation societies, such as the American Institute for Conservation, The Museums Association, and media outlets, such as the Oxford Mail, BBC Radio Oxford and BBC4. The best result of this project is that it was awarded 'Highly Commended' at the 2014 Museum and Heritage Awards in the 'Conservation and Restoration' category. ●

Below: Conservator Bethany Palumbo talks to a local primary school class about the project

Far right: Bethany Palumbo adds finishing touches to the dolphin

Below: The More than a Dodo blog

More than a Dodo

In February, the Museum's online presence ramped up a gear with the launch of a new permanent blog, More than a Dodo. Taking over from the successful Darkened not Dormant closure blog, the new site began to publish stories from across the Museum's collections, research, exhibitions, education, and conservation activity.

Complemented by the Twitter account (@morethanadodo), this social media activity gave the Museum a stronger online presence and allowed different styles of article, image and video, to be published on a regular basis. As well as acting as a promotional tool for the Museum, the blog also served as a searchable archive for much of the activity taking place across the year.

By the end of calendar 2014, the 66 articles on More than a Dodo had received almost 18,000 views by 9,000 visitors. On Twitter, the number of followers grew from just a few hundred to almost 4,000 by July 2014.

morethanadodo.com ●

Swifts in the Tower

In spring 2014 a successful application to the ASPIRE Innovation Fund allowed the Museum to invest in the equipment and expertise to move from the existing system of relaying a series of still images over the web, to the pro-vision of live video streaming of the swifts nesting in the Museum Tower to a large audience.

During the summer, the live stream was broadcast on a large screen in the Museum Court as well as the website, and it was extremely popular with visitors. The excitement of real-time and high-quality viewing enables the Museum to publicise one of its most iconic features. It has also allowed visitors to engage with the swifts in a number of ways, for example tours and talks were organised on the lawn for swift enthusiasts both amateur and professional, and the Museum became a special attraction for local ornithological groups.

The Museum website attracts visitors from around the world, and the live streaming page was among the top ten visited pages from May through to August.

The progress of the swifts and their chicks made a lively contribution to the Museum's social media presence and there was also a steady stream of enquiries about the swifts via the website. ●

Left: A swift flying around the Museum tower where it has been nesting

Below: Puffin specimen out and about at a local pub for the Goes for a Pint quiz

Goes for a Pint

As an extra special 'spin-off' from the Goes to Town project, funding was received from ASPIRE's Audience Engagement Fund to run 'Museum Goes for a Pint,' an eight-week project aimed at a young adult audience (ages 18-24) running between October and December 2013. The Education team and a number of volunteers visited eight different pubs across Oxford, hosted a natural history themed pub quiz, and brought along real specimens from the collection.

The project was a success, with good attendance in all of the quizzes and over 400 adults involved over the course of the programme. Each evening was evaluated using a purposely designed form to collect general feedback about the Museum, the event, and audiences so that the team could establish if the project reached the target audience and gain an understanding of what the Museum means to this audience and whether the event changed their impression of the Museum.

Part of the legacy of the project was to host a student night at the Museum once it reopened aimed at those audiences who attended the Goes for a Pint quizzes. The late night event on the 16 May was a direct 'spin off' from this project, and the night was themed around 'pub quiz' style activities. This rounded off the project nicely, by bringing the quiz and quiz-goers back into the Museum after reopening. ●

Exhibitions

Light Touch

In February 2014, an exhibition of large-scale Lepidoptera photographs by Katherine Child were suspended in the Main Court.

Katherine had recently completed a three-year project to photograph all of the butterfly and moth types in the Museum's collection. These images were captured primarily for scientific use, however many of the specimens in the type collection were particularly stunning, and the Museum decided that the opportunity to show them off to the public was too good to pass up. A selection of 16 of the images were selected for use in a 're-emergence' themed exhibition to tie in with the re opening.

These final 16 images were of a mixture of type and non-type specimens including dorsal and ventral shots. Katherine carefully chose the images to try and show diversity of colour, shape and pattern found throughout the specimens. The images provided a spectacular backdrop for the public to gaze upon as they emerged into the Museum Court. ●

Above: *Arcas gozmanyi*, Balint 2006. This is a type specimen from the Lycaenidae family

Right: Light Touch images hung around the Museum Court

Below right: Badger dream scene

Below far right: The Zoogeography case in the A to Z exhibition along the Upper Gallery

Wildlife Photographer of the Year

© Marc Steichen

The prestigious Wildlife Photographer of the Year exhibition returned to the Museum this summer for the first time in over a decade. The show was free to the public and was located in a prominent position in the Main Court from 16 July to 22 September. This global showcase of the very best nature photography inspired the Museum to launch its own wildlife photography competition on the subject of the swifts that nest in the Museum Tower. The Summer Swifts photo competition had a number of excellent entries, but the winning image was *Mastery of the Skies* by Judith Wakelam. Judith's entry was put on display alongside the Wildlife Photographer of the Year images in the Museum from mid-August for the public to see. ●

A-Z

Since the museum reopened its doors, visitors have had the opportunity to stop for a break at the new Museum Café. An accompanying exhibition curated by Zoë Simmons (Life Collections); A to Z was installed on the Upper Gallery to provide visitors with some learning to go with theirrefreshments. From A for Adaptation to Z for Zoogeography, the alphabetical adventure whizzes past terms as diverse as Nocturnal and Living FossilThe alphabetical adventure whizzes past terms as diverse as 'Nocturnal' and 'Living Fossil'. It's designed so that visitors can take a pick-and-mix approach to the collections, before devouring the large-scale displays around the Museum. Objects include an ammonite, peacock ore and a jewel scarab amongst others. ●

Education and Public Engagement

Art and Science

In March 2014, the Oxford University Museums joined forces for Reactions; a mini-festival focusing on the link between science and the arts. The festival ran for a week during National Science and Engineering Week and Oxfordshire Science Festival. Fourteen different events were delivered across the University Museums and Collections including a lecture on mathematics and art by Professor Marcus du Sautoy and a live reconstruction of a capybara skeleton by evolutionary biologist and broadcaster Ben Garrod.

The Reactions festival also saw the return of the tenth annual Wow! How? family science fair, which had a year off during the Museum's closure period. Wow! How? returned bigger and better than ever with 150 volunteers, 40 different stalls across the Museum of Natural History and Pitt Rivers Museum, and 4,500 visitors.

There was a huge variety of activities for the public to engage with, from liquid nitrogen on the Oxford University Chemistry Department's Supercool Show, to Street Science, a collection of amazing demos using everyday objects, with Honorary Associate Dr Yan Wong.

Wow! How? is a platform for staff and students from University departments and anyone who is passionate about science to engage visitors with aspects of their work. Museum of Natural History was well represented this year with stalls run by Allison Daley (Cambrian Explosion), Carolyn Lewis (fossil casting), Darren Mann (bug handling), and Tracy Aze (scanning electron microscope). ●

Left: One of the Wow! How? scientists engaging with visitors

Far left: Reactions Festival logo

Below: Derek Frampton and the class with their finished taxidermy jackdaws

Taxidermy for All

This spring saw the first adult day school dedicated to taxidermy. Five excited and enthusiastic members of the public were given expert tuition by Derek Frampton of the Guild of Taxidermists in a step-by-step guide to stuffing birds. The group worked tirelessly from 10am until 6.30pm to turn a lifeless jackdaw into a taxidermy specimen for display.

The demand for this course was high and became oversubscribed very quickly; therefore the Museum will plan to run it again in the future. ●

Natural History Investigators

In January 2014, the education team started 'Natural History Investigators', a group for young people aged between 14 and 16 years. Six Investigators met every Saturday morning to work on projects of their choice.

Over the course of 10 weeks Investigators compared, contrasted, measured, dissected, photographed and basically did things that could only be done in a Museum to investigate a question, for example: what can we learn about flight from insects or how can we work out the effects of climate change from microfossils?

This cohort of investigators met for the final time on 15 March when they presented their work for a silver CREST award and talked. about their findings at the Museum's science fair Wow! How? ●

Right: Natural History Investigators looking at specimens from the Museum's collection

The BIG Event

The British Interactive Group annual conference is a highlight event each year for science communication professionals across the UK, and this year the museum hosted the BIG Event from 24–26 July.

The conference was attended by 187 delegates representing 100 different organisations and the programme included 50 sessions, with 81 speakers. Delegates were drawn from science centres and museums, universities, STEM engagement companies, festivals, funding organisations, charities and individuals providing support services to the science communication industry.

The conference has always been a lively and energetic three days, and this year was no exception. The conference started with the 'BIG mingle' facilitated by Museum staff and volunteers, which involved 130 participants visiting 13 different spaces in the Museum of Natural History and Pitt Rivers Museum, engaging in an object-based challenge at each station, and moving spaces every five minutes. Museum staff ran eight different sessions over the three days and received excellent feedback.

As it was a warm and sunny evening, the decision was made to move the entire dinner outside, which made for a magical and memorable setting.

This was the first time that the Museum has hosted a large conference for Science Communicators. The feedback from organisers and participants was extremely positive, and has helped to significantly raise our professional profile nationally. ●

Café Scientifique

In September, the Museum started hosting Café Scientifique, a forum for the discussion of current work and interesting scientific issues. Each evening involves a short talk from a scientist, followed by about an hour of informal discussion and questions. In the first meeting at the Museum, Dr Georgina Humphreys gave a talk on anti-malarial clinical trials, illustrated by the beautiful mosquito models in the Entomology Collection. ●

Project Dinosaur

November saw the completion of 'Project Dinosaur,' an Arts Award programme of outreach at the Highfield Psychiatric Unit at the Warneford Hospital. Over 5 weeks, Chris Jarvis (Education Officer) and Nicola Bird (Outreach Officer) worked with 15 young people in the unit to complete an Arts Award qualification based around the science of dinosaurs. Each week started with a short presentation and chance for the teenagers to handle and explore museum specimens, make observations about them and ask questions. After this, they took part in an art activity to embed their learning, and express their understanding and responses to the topic in a more creative manner. Despite their varied, and often quite severe individual difficulties, the teenagers really threw themselves into the project and explored topics such as dinosaur anatomy, evolution, and fossil formation, whilst investigating the huge swathe of our culture that dinosaurs permeate. During the project they created sculpture, cartoons, and paintings, and even produced their own Jurassic soundtrack in their recording studio. It was a 'roaring success' all round. ●

The Oxford Bee Summit

The urgent call for local residents, experts and businesses to help restore pollinator habitats was answered very positively on 7 February 2014 as the Museum hosted the first 'Oxford Bee Summit' organised by Oxford Friends of the Earth. Conservationists, beekeepers, farmers, businesses, local authorities, students, and community group volunteers representing a wide range of local organisations came together to accelerate greater collaborative action to help reverse the decline of bees and to protect other insect pollinators such as butterflies and moths.

The day started with lectures and Q & A sessions led by experts including Professor Charles Godfray, Hope Professor of Zoology at Oxford University and Chair of the Pollinators Expert Advisory Group, Colin Tudge, Biologist, writer and cofounder of The Campaign for Real Farming and Ivan Wright, Chairman of Shotover Wildlife. Eleanor Lischka, Head of Plant Health, Bees and Seeds Policy, at Defra gave an insight into the Government's soon-to-be launched National Pollinator Strategy after which the attendees broke up into action groups to discuss practical ways in which pollination strategies could be implemented on the ground in a practical, collaborative way. ●

Above: A fossil-inspired artwork in clay created by one of the Project Dinosaur participants

Left: Oxford Bee Summit at the Museum of Natural History, Friday 7 February 2014

Museum Matches

On 26 November 2013, Museum staff hosted 'Museum Matches', an event supported by the ASPIRE Innovation Fund aimed at engaging students from across the university with museum-based objects. Students signed up at Freshers' Fair and were then randomly allocated one of 20 objects in either the Museum of Natural History or the Ashmolean. Students were then sent a postcard showing a detail of their specimen, inviting them to an evening event at the Museum. Invitations were also emailed to all active undergraduate and postgraduate volunteers in order to get some mixing between students who are new to the Museum and those who have been involved for some time. On the night, ten members of staff from across the Earth and Life Collections spent an hour enthusing about the specimens they had chosen, to a very appreciative audience of around 50-60 students. Staff and students alike enjoyed the evening, and the feedback was extremely positive: "It was an amazing event, seeing fossils of 425 million years old! Beetles, fishes, fossils! Thank you for this warm and interesting event!" ●

Festival Time

Armed with specimens, craft activities and an army of helpful volunteers and staff, the Museum visited its first ever festival this summer hosting a stall at this year's Wilderness Festival. Stationed in grounds of the Cornbury estate, the team welcomed costumed, painted, and be-masked revellers to the Oxford University Museum's tent to learn about the Museums, get up close to some great objects, and participate in some museum craft activities.

The Museum also made an appearance at the Wychwood Forest Fair this year. This annual event is organised by the Wychwood conservation project and it celebrates the diversity and richness of both the natural world and the working and leisure activities of local people living within the bounds of the old Royal Hunting Forest of Wychwood. The Museum gazebo attracted a wide range of local visitors who were fascinated by the local fossils the Museum team brought for examination. ●

Above: Oxford University students take a look at some Entomology specimens at 'Museum Matches'

Right: A young festival- goer marvelling at a specimen from the Museum's collection at Wilderness Festival

Far right: Museum craft activities at Wilderness Festival

What's on the Van?

During the closure year, the new museum van proved to be invaluable as it took to the road with the Education Team to head to small, rural schools that are often unable to visit the Museum and community events.

The van is adorned with images of some of the Museum's most iconic specimens, from the Oxford Dodo to Darwin's dung beetle, a gemstone to the *T. rex*. The van has therefore received a lot of attention whilst out and about, which inspired the Education Team to start the 'What's on the Van' blog series. Each week a member of the Collections staff revealed interesting facts or stories behind one of the 37 van specimens. The series highlighted the Museum's diverse collections and offered expert information to the public about what makes each of the iconic specimens on the van so special. ●

Sixth Form Study Day on Gene and Cell Therapy

A collaboration between the Museum, the British Society for Gene and Cell Therapy, Genetic Disorders UK and the Oxfordshire Science Festival brought discussion and debate about cutting edge gene and cell therapies to Oxford. Alison Woollard who gave the 2013 Royal Institution Christmas Lectures headed the programme of leading scientists from across the UK.

More than 270 students attended this interactive day as well as patients and their carers and members of the public who were keen to learn more about the way genes and cells are revolutionising medicine. Attendees had a rare opportunity to hear leading scientists talk about their work, meet them during the workshops, ask questions and some fun hands-on activities to help them gain a deep understanding of the science. ●

Left: The Museum van ready to head off to an outreach session

Below: The Museum Court bustling with students on the Sixth Form Study Day

Young Entomologists

This year the Entomology Department has been working with youth organisations such as the Amateur Entomologists Society (AES) Bug Club and 'Ento Kids', facilitated by Sally-Ann Spence (Minibeast Mayhem), on a programme of practical yet specialist sessions aimed at encouraging young entomologists and natural scientists.

The Department has provided a number of open days to the collections so that children and young adults can visit behind the scene collections. The days usually involve a tour, talks on pinning and mounting insects, identification workshops and history about the Collections and Museum. Participants also get to spend time with Department staff, to help with their personal collections and answer all those little queries that life as a young entomologist throws up, which has proven to be an invaluable experience for all involved — and a great deal of fun.

For those especially keen individuals one-to-one training days were provided by the Entomology Team. This is typically for the older students who are in the process of making A-Level or University course choices and is part of the legacy building project that staff have been working on to help encourage young people with an interest in science and the natural world. ●

Supporting Teachers in Science Education

The Education team teaches over 300 trainee teachers each year, contributing to the PGCE programmes at both Oxford Brookes and Oxford University Department of Educational Studies. In addition to this the Museum offers CPD courses for practising teachers. In December 2013, as part of the Wallace centenary, Sarah Lloyd co-ordinated a CPD day for sixth form teachers on Wallace's contribution to science and the study of evolution today. Evolution will enter the Primary school curriculum for the first time in September 2014. In response to this, the education team have developed new evolution resources (available on the website), and have developed a CPD day on evolution for primary teachers, which was delivered for the first time in November 2013.

Evaluation was very positive: "A very thorough and clearly explained introduction to evolution and how to implement it in the classroom."

"This was a great and really informative day. The sessions were really pacey and well considered — lots of bursts of helpful information with ideas I can use." ●

Above: A budding entomologist carefully pinning insects up in the Entomology Department

Right: Museum education staff Sarah Lloyd and Chris Jarvis, talking to teachers about science education

Museum Research Fellows

September 2014 saw the arrival of the first Museum Research Fellows: Dr Tracy Aze, Dr David Legg, and Dr Allison Daley.

Tracy Aze completed her PhD at Cardiff University and went on to study planktonic foraminifera, evolution, ecology, and climate change as a postdoctoral research associate. Tracy's research will be focused on extinction risk in the marine realm over the last 65 years. David Legg finished his PhD at Imperial College and the Natural History Museum last month, and during his research fellowship at the Museum he will be studying the impact of fossil arthropods on phylogenetic hypotheses, and exploring periods of rapid diversity expansion such as the Cambrian Explosion and the Great Ordovician Biodiversification Event. Allison Daley will split her time between the Museum and the Department of Zoology. Allison completed her PhD at Uppsala University and went on to take up a postdoctoral fellowship at the Natural History Museum. Allison's research will be looking at the early evolution of arthropods and predation in particular Cambrian stem-lineage taxa from exceptionally preserved fossil deposits such as the Burgess Shale in Canada and the Emu Bay Shale in Australia. ●

Cambrian Explosion Article in *Science*

Paul Smith's article in *Science* on the causes of the Cambrian Explosion generated a range of media coverage. The highlight was a feature in the New York Times by Carl Zimmer, and there was additional coverage by NBC News, the Voice of America and a number of science blogs together with snippets in National Geographic and the Daily Telegraph. The take-home message was that since 2000 there have been over 30 individual hypotheses proposed for the event, ranging from intrinsic re-organisation of the animal genome through to starbursts in the Milky Way, with a general pattern of hypotheses being proposed as standalone mechanisms for the rapid increase in biodiversity. Work on the Siriuspasset fossil locality in northernmost Greenland led Paul and his co-author, David Harper of Durham University, to the realisation that many of the individual hypotheses were viable, but also that they were co-dependent and linked as a series of chains and feedback loops. A rapid sea-level rise early in the Cambrian triggered equally rapid chemical erosion of continental crust and primitive soils, leading to a flush of chemical ions into marine waters. This in turn generated a range of interacting biological processes and the evolutionary innovation of new modes of life in animals (burrowing, swimming, and predation) that enabled the construction of more complex food webs supporting higher diversity and abundance. ●

RIght: The joint UK-Denmark team collecting at the Siriuspasset fossil locality in North Greenland

Research Trip to Sumatra

The Biodiversity and Ecosystem Function in Tropical Agriculture (BEFTA Project) led by the University of Cambridge in partnership with SMART Research Institute (Sumatra) aims to quantify the effect of habitat complexity within oil palm plantations on biodiversity and test the role of this biodiversity in ecosystem functioning and productivity.

As part of this project Dr Eleanor Slade (University of Oxford) and Darren Mann, Head of Life Collections, are studying the role dung beetles play within the oil palm landscape for dung removal, soil fertility, and bioturbation. Darren's first visit to the study site near Pekanbaru, Riau Province, Sumatra, during August-September 2013 was spent discussing the project with local collaborators and setting up the sampling points across all the study plots and to establish baseline data. Using dung baited pitfall traps over 5,200 individuals of 19 dung beetle species were collected, including one species new to the Sumatran fauna. In addition to the normal trapping, the team took the local collaborators out dung beetle hunting across the oil palm sites, investigating dung burial depths, nesting behaviour and species occurring on local wildlife dung, from Bali cows to palm civets. ●

Right: Darren Mann out dung beetle hunting in Sumatra with local collaborators

Below: *Dakosaurus maximus* — five isolated tooth crowns from the Museum's collection

Dakosaurus Paper

In May 2013, Eliza Howlett was one of the co-authors on a paper in *Historical Biology* on the metriorhynchid crocodile *Dakosaurus* (http://www.tandfonline.com/doi/abs/10.1080/08912963.2014.915822). Metriorhynchids were a group of marine crocodiles that evolved from Jurassic freshwater crocodiles during the Middle Jurassic to Early Cretaceous. Species within the sub-group Geosaurini evolved numerous adaptations for feeding on large-bodied prey. These adaptations were particularly well-developed in *Dakosaurus*, whose craniodental morphology (short, deep snout, large and robust tooth crowns, and tight tooth-to-tooth occlusion) suggests that it was probably the ecological analogue of modern killer whales.

The paper reviewed discoveries of *Dakosaurus* in the Kimmeridge Clay (Upper Jurassic), as well as re-worked specimens found in the Woburn Sands (Lower Cretaceous). Specimens from the OUMNH collections included five teeth of *Dakosaurus maximus* that were collected from Shotover Hill by James Wood Mason in 1866. *Dakosaurus maximus* is known almost exclusively from the lower Kimmeridge Clay (Kimmeridgian). The Shotover deposits are almost entirely from the upper Kimmeridge Clay (early Tithonian), so the presence of these teeth may well extend the known stratigraphic range of this species. The paper also described the largest known British specimen of *Dakosaurus*, an isolated tooth discovered off Chesil Beach, Dorset, now held in the Natural History Museum in London. ●

SPNCH Conference 2014

Twelve members of Museum staff made the journey to Cardiff for the 29th Annual Meeting of the Society for the Preservation of Natural History Collections (SPNCH). This year, the international conference's theme was *Historic Collections: A Resource for the Future*. A large number of the team gave presentations: Paul Smith, Director, presented on university museums of natural history; Darren Mann, Head of Life Collections, talked about locating the lost insect types in the Collections; Nicola Crompton, Conservation Intern, gave a talk on the Once in Whale project; and Janet Stott, Head of Education, gave a presentation titled *Teaching Evolution Using Natural History Collections: How Can we do it Better?* with Jane Pickering, Director of the Harvard Museums of Science and Culture. Head of Earth Collections Monica Price collaborated with Dr Jana Horak from National Museum Wales to talk about maximising the use of petrology collections.

There were also poster presentations from Bethany Palumbo, Life Sciences Conservator, on the implementation of IPM, Molly Carter and Gina Alnatt, Life Collections, on the Lepidoptera project, and Amoret Spooner, Life Collections, on 'lost' Le Conte types.

In conjunction with the conference, a joint display of the Museum of Natural History and the National Museum Wales entitled 'Natural Treasures' was displayed in the foyer of the Millennium Centre, Cardiff. Included were some of the Museum's most important objects from the Collections, including Darwin's Crabs, the *Megalosauras bucklandii* jaw, and the Dodo head. It was the first time that so many of the Museum's treasures had been exhibited together, and as a result it made a large impact with those who saw it. To round off the conference, Zoë Simmons, Life Collections, gave an interview to BBC Wales for the Science Café programme about the Museum's treasures on display. ●

Left: Director Paul Smith presenting Contemporary Science and Society at the SPNCH conference

Palaeontological Medal

Honorary Associate and former Museum Director, Professor Jim Kennedy was awarded the inaugural Palaeontological Medal by the Palaeontographical Society. The medal will be awarded biennially for 'a sustained and important series of contributions to taxonomic and systematic palaeontology'. The Society said that, "with the award of the first Palaeontographical Society Medal we hope to further recognise the immense contribution that Jim has made to understanding the fossil fauna of the British Isles." ●

The 'Red Lady' Goes to London

On 29 January, Earth Sciences Conservator, Juliet Hay accompanied the 'Red Lady of Paviland' from Oxford to the Natural History Museum in London, where it formed part of an exhibition entitled Britain: One Million Years of the Human Story. The bones of the 'Red Lady' are in fact those of a young man, and the most recent radiocarbon dating indicates that they are around 33,000 years old. This makes it the oldest known ceremonial burial of an anatomically modern human to be discovered anywhere in Western Europe. ●

Above: The Palaeontographical Society Medal

Right: The burial remains of the Red Lady of Paviland at the Conservation Unit at the Natural History Museum

Jones' *Icones* Online

Featuring 1500 paintings of 750 moth and butterfly species, William Jones' *Icones* is a key text in British Lepidoptera and one of the greatest archival treasures of the Oxford University Museum of Natural History. With funding from the Heritage Lottery Fund's *Your Heritage* initiative, the project *Flying Icons* was undertaken to make the 18th century, six-volume, manuscript available to all for the first time. This funding supported the Museum in digitising Jones' *Icones*, cataloguing the archive and specimen collections, and in developing a website and online application. It also supported a number of public engagement events, including a lecture and exhibition, and a volunteer programme.

Jones' *Icones* Online was launched in April 2014 as the Museum's first citizen science website. In addition to making these beautiful images available online for the first time, the site will allow people around the world, from keen amateurs to experts, to help identify all the species represented in Jones' *Icones*. ●

Above: Plates from Volume iv Jones' *Icones*

Megalosaurus Goes Abroad

Left: Part of the lower jaw of *Megalosaurus bucklandii* from the Middle Jurassic of Stonesfield, Oxfordshire

At the end of October, Eliza Howlett, Collections Manager, Earth Collections, and Juliet Hay, Earth Sciences Conservator, attended the 2013 Munich Show; an exhibition and trade fair showcasing some of the world's most stunning minerals, gems, jewellery, and fossils. As part of the show's 50th anniversary celebrations, the organisers had asked for Oxford's *Megalosaurus bucklandii* jaw to be one of the centrepieces of a display entitled 'Golden Moments of Palaeontology'. The jaw was displayed along with other world famous specimens including trilobites with legs and antennae, feathered dinosaurs, and the skull of *Protoceratosaurus*, an antecedent of *Tyrannosaurus*. ●

Crystals

Mineral specimens from the Earth Collections were among items loaned to the Museum of the History of Science for their 'Crystals' exhibition which ran from November 2013 to March 2014 to celebrate the International Year of Crystallography 2014. Other items lent by the Museum included historic crystal models and crystallographic apparatus. The year was marked in the Museum itself with *Crystals, Naturally!*, a temporary display showing some of the extraordinary features and properties of naturally formed crystals. ●

Saint Helena Shrimps

In spring 2014, a number of parcels containing marine decapod crustaceans arrived at the Museum from the small island of Saint Helena in the south-central Atlantic.

These specimens for the Museum's Invertebrate Collections were collected by Dr Judith Brown of the Environment and Natural Resources Directorate in Saint Helena and Professor Peter Wirtz of Universidade do Algarve, Portugal. Until now only 36 species were known from the island, and the majority of these were collected between 1958 and 1964; only a single additional species has been recorded since.

The present collection is being studied by Sammy De Grave, Assistant Curator of Zoology, in collaboration with Dr Paul Clark at the Natural History Museum in London and has so far yielded upwards of ten additional species found on the island, as well as four completely new species.

The snapping shrimp *Alpheus cedrici* is one of the new records for the island. The four new species will now be described in the scientific literature, after which a new check-list of the decapod fauna of Saint Helena will be produced. ●

Above: Minerals — natural crystals — from the Museum's collection.

Right: *Alpheus cedrici* — a snapping shrimp

Partnerships

Crap in the Attic?

On 20 November 2013, 60 delegates from within roughly a two-hour driving radius of Oxford gathered at the Museum of Natural History to discuss the management and use of natural history collections in the tongue-in-cheek named conference Crap in the Attic? The free event was coordinated by Oxford ASPIRE and Life Collections, and was designed to be an opportunity to discuss possible joint solutions to shared problems facing the natural science collections in the region.

The day also aimed to identify what expertise and collections there are in the region, as well as what the region lacks. The conference also looked at current best practice for using natural history collections for public engagement and schools education, and new opportunities for teaching, especially in light of the recent changes to the curriculum.

The day was introduced by Director Paul Smith, who gave a keynote on the State of the Nation, discussing the decline of specialist natural science curators in the museums sector. The day continued with a number of different talks and panel discussions. Janet Stott, Head of Education, gave a very well received talk on natural history collections and object based learning. Monica Price, Head of Earth Collections, and Darren Mann, Head of Life Collections, chaired the two panel discussions on engaging with natural science collections and research, and collections care.

Anecdotal feedback from the day suggested that delegates found it to be a useful forum to network and share ideas, as well as to discuss some of the shared issues facing the sector. It was agreed that the opportunity to get together and discuss what is happening was invaluable and something that should be repeated. **http://www.oxfordaspiremuseums.org/blog/crap-attic** ●

The British Council in Brazil

In late October Paul Smith participated in a study tour of Brazilian museums to look at the possibilities for establishing partnerships between UK and Brazilian museums. The visit was organised by the British Council and the delegation included representatives from a range of regional UK museums together with the new Director of Museums at Arts Council England, John Orna-Ornstein. The visit focused on museums in the three largest metropolitan districts – São Paulo, Rio de Janeiro, and Belo Horizonte. The first thing that struck the party was the scale of investment in Brazilian museums. From a not particularly low base, funding for museums has increased by 600% in the last ten years, fuelled by an imaginative use of tax waivers for companies.

After the formal trip, Paul stayed out in São Paulo to visit the museums at the Universidade de São Paulo (USP). Links were initiated with the Museu de Zoologia and the Museu de Arqueologia e Etnologia, and Sammy De Grave has already made the trip for a follow-up visit funded by the ASPIRE Innovation Fund. ●

Above; Janet Stott, Head of Education, presenting at Crap in the Attic

Left: The Museu da Maré in the Maré favela, a ground-breaking community museum in Rio de Janeiro, Brazil

Media

Mystery in the Museum

The Museum went back in time on 21st and 22nd October, as the Endeavour film crew brought cameras, props, and actors in impressive costumes into the closed galleries. Endeavour is a prequel to Inspector Morse, the famous Oxford-based series that ran for 13 years. The series is set in the 1960s so, to achieve an authentic period look, preparations by the production team started in the Museum days before the cameras arrived. Skeletons that were covered in plastic and foam were given a retro make-over with canvas draping, and modern displays were temporarily replaced by '60s style versions.

The Museum featured heavily in the second episode in the new series, called 'Nocturne', that aired on 6 April. Some important investigation scenes took place in the historic spaces, particularly the Huxley Room. ●

© Mike Peckett

Right: On set: Policemen pose for the camera in between takes

Far right: Endeavour star, Shaun Evans, in front of the trilobite display

Below: BBC: Filming for the BBC documentary 'Secrets of Bones' with presenter Ben Garrod

BBC documentary filming at the Museum

In November 2013, the Museum had the opportunity to uncover the Sperm Whale mandible in style as it was featured in a BBC Nature series 'Secrets of Bones'. Ben Garrod, evolutionary biologist, used the museum specimens to look at the evolution of the mandible and its diversity in nature. The conservation team was eager to oversee the action and learn about the process of putting a documentary together. The footage was aired on BBC4 in February 2014.

In June 2014, Ben Garrod and the BBC iWonder team returned to the Museum for a filming session all about the evolution of birds entitled 'Do Dinosaurs Still Live Among Us?' The filming focused on the cast of the famous Archaeopteryx fossil, the first found to show the traces of feathers on a dinosaur.

The Museum again played host to the BBC later on in the year, as a whole episode of BBC 4's The Sky at Night programme was filmed at the Museum in May 2014. Dr Sarah Russell brought a slice of lunar meteorite with her when she came to be a guest on the programme and presenters Dr Maggie Aderin-Pocock and Dr Chris Lintott showed some of the meteorites from the Museum's collection when the episode was broadcast in June 2014. ●

Running the Museum

Walk this Way

In early August Juliet Hay, with assistance from the University Parks team, oversaw the reinstatement of the casts of dinosaur footprints, which had previously been moved to make way for the Ghost Forest installation. Thirty-one casts were used, now moving from North-West to South-East across the lawn towards the museum. The casts are from moulds originally taken from one of the theropod trackways discovered at Ardley Quarry in 1997. This particular trackway is of significant importance as it showed the first known evidence of dual speed and an associated change in gait. ●

Museum Café

For 154 years the Museum existed without a café, and it has been one of the top visitor requests. Cafés are now seen as an essential part of the Museum experience and have shown to prolong visits, diversify audiences with an aim to providing an unrestricted income stream. The closure period was an ideal time to plan the installation of the Museum's first café.

Although the walking distance to the nearest coffee was 7 minutes away, the Museum did not want to exploit visitor thirst with an inferior offer. Instead extensive visitor research was carried out and a pop-up café was trialled before closure in December 2013. The trial over half-term and summer provided vital statistical information to supplement an external tendering process.

An external partner had to match our vision and values, and the new catering offer had to match up with the visitor profile. The café also had to overcome internal hurdles, listed status, limited stock room, the IPM, not to mention the complete lack of a kitchen. The tendering process was completed to timescale, the new café run by Mortons of Oxford, opening to coincide with the reopening of the Museum in February 2014.

The Museum now has a great working partnership with the local company Mortons, an excellent café that has been cleverly designed to disappear from view when the Upper Gallery is required for fine dining and other events, food that is prepared offsite and delivered by bike, and a steady income stream which supports innovative staff roles within the Museum. ●

Above: Aerial view of the newly installed footprints on the lawn

Left: Museum Café on the Upper Gallery

Arts Council Funding

The Oxford University Museums have been awarded further funding from Arts Council England as a Major Partner Museum. The University Museums will receive £1.45 million per year.

Oxford is one of 21 Major Partner Museums to share £22.6 million. This represents an increase of five in the Major Partner Museum portfolio with the new additions being Black Country Living Museum & Coventry, Derby & Nottingham Museums, Cornwall, Hull, and Sheffield. ●

Supported using public funding by ARTS COUNCIL ENGLAND

Accredited Again

In February, the Museum successfully reapplied for Accreditation by Arts Council England. The Accreditation scheme sets standards for museums and art galleries across all activities including governance, financial management, collections care and conservation, staffing, access, and visitor experience. The Museum's Strategic Plan and policy documents were all reviewed to accompany the submission, a process to which staff from all sections contributed. By retaining Accredited Status, the Museum demonstrates its professionalism and continues to be eligible for support from a number of key funding bodies. ●

ACCREDITED MUSEUM

Experience Gained

Over the summer, the Museum hosted eleven paid internships supported by grants from the University's E.P.A. Cephalosporin Fund and the University's own internship scheme funded by HEFCE. The cohort of interns worked on a wide variety of projects across the Collections and Departments, from audience research for Oxford ASPIRE, to the curation of longhorn beetles (Cerambycidae) in the Life Collections, to work on the archive of 19th-century entomologist James Charles Dale.

One of the interns, Grace Manley, worked with Dr Tracy Aze, a Research Fellow at the Museum who is studying planktonic foraminifera to investigate marine extinctions. For Grace, the internship provided "a practical experience of scientific research in the field of environmental change and extinction". At the same time, she enjoyed "the chance to learn about the hugely diverse range of collections in the Museum and how they are actively used for scientific research today."

Second-year biologist Ellen Foley-Williams worked on the Long-horn Beetle collection, but as she is interested in science communication, an extra task was set to run a blog which the interns could use to share their experiences (morethananintern.wordpress.com).

Some of the interns rose to the challenge of joining the Museum's 'Spotlight Specimens' rota, which was a great opportunity to meet and engage the Museum's visitors.

The Museum is planning to welcome another large cohort of paid internships next summer with a whole new set of projects. ●

Right: Intern Grace Manley working on the planktonic foraminifera with Research Fellow Dr Tracy Aze

Appendices

Appendix 1: Visitors of the Oxford University Museum of Natural History

The Vice-Chancellor: Professor Andrew Hamilton FRS
Pro-Vice-Chancellor (Research and ASUC): Professor Ian Walmsley FRS
Assessor: Dr Penny Probert Smith
Lord Krebs FRS (Chairman)
Jana Bennett
Robert Campbell
Professor Philip England FRS
Professor Richard Fortey FRS
Professor Paul Harvey FRS
Professor Gideon Henderson FRS
Professor Peter Holland FRS
Professor Jonathan Michie
Dr Michael O'Hanlon
Professor Alice Roberts
Professor Iain Stewart
Professor Paul Smith (Secretary to the Board)

Appendix 2: People

Staff of the Museum 2012–2013

Director: Professor Paul Smith
Administrator: Wendy Shepherd

Life Collections
Head of Life Collections: Darren Mann
Assistant Curator: Dr Sammy De Grave
Collections Manager: Malgosia Nowak-Kemp
Conservator: Bethany Palumbo
Conservation Assistant: Gemma Aboe
Conservation Assistant: Nicola Crompton
Collections Assistants: Gina Alnatt, Molly Carter, Katherine Child, Dr James Hogan, Zoë Simmons, Amoret Spooner

Earth Collections
Head of Earth Collections: Monica Price
Curator: Dr David Waters
Senior Research Fellow: Professor Derek Siveter
Collections Manager: Eliza Howlett
Earth Collections Conservator: Juliet Hay
Research Assistant: Dr Carolyn Lewis

Archives and Library
Head of Archives and Library: Kate Santry
Digitisation Officer: Dr Sarah Joomun

Research
Museum Research Fellows: Dr Tracy Aze, Dr Allison Daley and Dr David Legg

Information Technology
IT Officer: Sarah Phibbs
IT Assistant: Dr Rosemary Painter

Education and Outreach
Head of Education: Janet Stott
Secondary School Officer: Sarah Lloyd
Primary School and Family Officer: Chris Jarvis
Education Officer: Rachel Parle
Education Assistant: Simone Dogherty
Community Outreach Officer: Nicola Bird
Volunteers Co-ordinator: Joy Todd
Volunteer and Outreach Assistant: Dr Caroline Cheeseman
HLF Skills for the Future Project Co-ordinator: Neil Stevenson
HLF Skills for the Future Trainees: Liz Danner, Carly Smith-Huggins

Central Services
Administrator's Assistant and Director's Secretary: Kristin Andrews-Speed
Facilities and Events Manager: Julia Parker
Accounts: Beverly Judd
Communications Officer: Scott Billings
Front of House Staff: Georgina Datcu, Antonia Edwards, Rebecca Hogben, Jane Griffin, Liam Masterson
Cabinet-maker: William Richey
Workshop and Maintenance: Peter Johnson
Retail Manager: Yvonne Cawkwell
Shop Assistants: Safora Bibi, Stuart Booker, Fitri Puspitasari
Cleaner: Gary Coates

Cross-Museum Fundraising
Senior Development Executive: Dr Heidi Kurtz
Oxford University Museums Research Facilitator: Dr Harriet Warburton

Oxford ASPIRE
Oxford ASPIRE Manager: Lucy Shaw
Oxford ASPIRE Officer: Jessica Suess
Oxford ASPIRE Assistant: Ellena Smith

Honorary Associates
Mr D. Michael Ackland
Dr Jonathan Antcliffe
Mr John B. Davies
Mrs Elizabeth H.M. Cooke
Mr John Cooter
Mr Guilliaume de Rougemont
Mr Ray Gabriel
Mr Richard Gallon
Dr John W. Ismay
Dr Jeyareney A. Kathirithamby
Dr Tom S. Kemp
Professor W. Jim Kennedy
Dr Stuart Longhorn
Dr George C. McGavin
Mr Roy Overall
Dr Adrian C. Pont
Mr H. Philip Powell
Mr Chris A. O'Toole

Professor Keith S. Thomson

Dr Kevin Tilbrook

Dr Yan Wong

Research Units

Environmental Archaeology Unit

Director: Professor Mark Robinson

DPhil Students: Dana Challinor (St Cross), Rachel Hesse (Merton), Lisa Lodwick (St Cross), Erica Rowan (St Cross)

Appendix 3: Finance

Grants Awarded and Donations Received

29th May Charitable Trust, Roof Project - £15,000

ACE Designation Challenge Fund, Gems of Earth and Air - £67,774

ACE PRISM Fund, Conservation of whale skeletons - £11,305

BBSRC, Biosense exhibition - £10,000

EPA Cephalosporin Fund, Three Year Internship Programme - £37,926

Heritage Lottery Fund, Jones' *Icones* Online - £38,400

Negaunee Foundation, Project Funding for Museum Research Fellowships - $75,000

Spilsbury Fund, Lepidoptera Cabinets - £13,930

Street Foundation, Life Collections - £40,000

Wolfson Foundation, Roof Project - £150,000

Travel and Research Grants

John Fell Fund, £7423 (D. Siveter)

John Fell Fund, £5000 (S. De Grave)

Leverhulme Emeritus Fellowship, £21,846 (D. Siveter)

Systematics Association, £1000 (S. De Grave)

Appendix 4: New Acquisitions

Earth Collections

A total of ten accession lots of 515 specimens were received by donation to the Department

Notable donations include:

A collection of Jurassic and Cretaceous fossils, mainly from the Sponge Gravels of Faringdon, Oxfordshire - 459 specimens from R.G. Morgan

Jurassic and Cretaceous ammonites and Eocene leaves from Dorset; Cretaceous ammonite from Sussex, Cretaceous fish from Hampshire - eight specimens from Tony Holmes

A fine large slice of silicified wood from the USA, a large piece of malachite, with a small collection of mineral samples for education use – 24 specimens from Tony Ashton

Polished decorative rocks from Belgium, Egypt, England (Devon), France, Greece, India, and Italy – from Mr Ian MacDonald (McMarmilloyd Ltd)

Arsenopyrite, wolframite, siderite, chalcopyrite, and smelted tungsten from Portugal; cinnabar from Spain – from Marion Hebblethwaite

Life Collections

A total of 143 accession lots of 17,383 specimens were received by donation to the Department.

Notable donations include:

Invertebrates from riparian reserves and oil palm plantations in Sabah, Borneo. Presented by Claudia Gray.

Butterflies from Southern Sudan collected in the 1930's by Major I.G. Owen. Presented by the National Museum of Wales, Cardiff.

Butterflies from Zambia, collected by M.N. Mitchell between the late 1960's and early 1970's. Presented by Mark Schofield.

First British example of the true bug *Notostira erratica* (Hemiptera: Miridae). Presented by Brian Nelson

Specimens of the Corylophidae beetle *Arthrolips obscura* new to Britain. Presented by Andrew Duff.

Paratype material of water beetles recently described from South Africa: *Sharphydrus brincki*, *Prosthetops wolfbergensis*, *Hydraena lotti*. Presented by David Bilton.

Archive and Library Collections

A total of 311 items of material was accessioned into the Archive and Library Collections comprising 251 periodical issues, 16 books, two pieces of archival material. Forty-two books were donated to the Collection. Significant donations were received from: M. Maclean and A. Pont.

Appendix 5: Loans

Earth Collections

Total of 22 loans of 521 specimens which break down to 21 from the UK and one from the EU.

Life Collections

Total of 76 loans of 5801 specimens which break down to 35 from the UK, 30 EU, and 11 non-EU

Archive and Library Collections

Total of two loans of 11 items to Banbury Museum and Summertown Library.

Appendix 6: Enquiries

Earth Collections

In total there were over 410 enquiries .

Life Collections

In total there were over 537 enquiries requiring an estimated 2411 hours of staff time.

Archive and Library Collections

In total there were over 357 enquiries requiring in an estimated 154.7 hours of staff time.

Appendix 7: Collections Visitors

Earth Collections

There were 61 collections-based visitors to the department comprising of 63 from the UK, five from the EU (Germany, Spain, Denmark) and eight non-EU (Australia, Canada, China, Colombia, USA, Switzerland).

Life Collections

There were 209 collections-based visitors to the department comprising 182 from the UK, four from the EU, and 23 non-EU.

Archive and Library Collections

There were 83 visitors to the Archive and Library Collections from the UK, USA, Canada, Sweden, and Japan.

Appendix 8: Publications

Entomological Collections

Ackland, D.M. (2013). *Egle suwai* Michelsen (Diptera, Anthomyiidae) new to Britain, with notes on other *Egle* species and a key to British males. *Dipterists Digest*, **20**(1), 73-78.

Ackland, D.M. & Bratton, J.H. (2013). Some new records of Anthomyiidae (Diptera) from Scotland and Wales, and a summary of *Chirosia* host ferns. *Dipterists Digest*, **20**(2), 153-155.

Allen, T., Barclay, A., Cromarty, A.-M., Anderson-Whymark, H., Parker, A., **Robinson, M**. and Jones, G.(2013). Opening the wood, making the land. The archaeology of a Middle Thames landscape: the Eton College Rowing Course Project and the Maidenhead, Windsor and Eton Flood Alleviation Scheme. *Volume 1: Mesolithic to early Bronze Age.* (Thames Valley Landscapes Monograph 38. Oxford: Oxford University School of Archaeology.) 571pp.

Cowan, R.J., Searle, M.P. and **Waters, D.J.** (2014). Structure of the Metamorphic Sole to the Oman ophiolite, Sumeini Window and Wadi Tayyin: implications for ophiolite obduction processes. In: *Rollinson, H.R., Searle, M.P., Abbasi, I.A., Al-Lazki, A. & Al-Kindi, M.H. (eds), Tectonic Evolution of the Oman Mountains, Geological Society, London, Special Publications,* **392**, 155-175. DOI: 10.1144/SP392.8

Daley, A.C. (2013). Quickguide: Anomalocaridids. *Current Biology*, **23**, R860-R861.

Daley, A.C. and Edgecombe, G.D. (2014). Morphology of *Anomalocaris canadensis* from the Burgess Shale. *Journal of Paleontology*, **88**, 68-91.

De Grave, S. (2014). A new species of crinoid-associated *Periclimenes* from Honduras (Crustacea: Decapoda: Palaemonidae). Zootaxa, **3793**: 587-594.

De Grave, S. and Ashelby, C.W. (2013). A re-appraisal of the systematic status of selected genera in Palaemoninae (Crustacea: Decapoda: Palaemonidae). *Zootaxa*, **3734**, 331-344.

De Grave, S. and Page, T.J. (2014). The status of the Australian genus *Caridinides* Calman, 1926 (Crustacea: Decapoda: Atyidae) with reference to recent phylogenetic studies. *Zootaxa*, **3753**, 398-400.

Dobson, N.C., **De Grave, S.** and Johnson, M.L. (2014). Linking eye design with host symbiont relationships in Pontoniinae shrimps (Crustacea, Decapoda). *PLoS One*, **9**, e99505.

Edgecombe, G.D. and **Legg, D.A.** (2014). Origins and early evolution of arthropods. *Palaeontology*, **57**, 457-468.

Gallon, R.C. (2013). Theraphosidae new to Uganda. *Newsletter of the British Arachnological Society*, **128**, 13.

Gallon, R.C. (2014). *Aelurillus v-insignitus* (Clerck, 1757) a salticid new to Caernarvonshire, with notes on *Clubiona genevensis* L. Koch, 1866. *Newsletter of the British Arachnological Society*, **130**, 15.

Gray, C.L., Slade, E.M., **Mann, D.J.** and Lewis, O.T. (2014). Do riparian reserves support dung beetle biodiversity and ecosystem services in oil palm-dominated tropical landscapes? *Ecology and Evolution*, **4**, 1049-1060.

Hamel-Leigue, A.C., Herzog, S.K., Larsen, T.H., **Mann, D.J.**, Gill, B.D., Edmonds, W.D. and Spector, S. (2013). Biogeographic patterns and conservation priorities for the dung beetle tribe Phanaeini (Coleoptera: Scarabaeidae: Scarabaeinae) in Bolivia. *Insect Conservation and Diversity*, **6**, 276-289.

Hegna, T.A., **Legg, D.A.**, Møller, O.S., Van Roy, P. and Lerosey-Aubril, R. (2013). The correct authorship of Arthropoda. *Arthropod Systematics & Phylogeny*, **71**, 71-74.

Horká I., **De Grave, S.** and Ďuriš, Z. (2014). A new species of shrimp of the genus *Anachlorocurtis* from the Red Sea, with range extension of *A. commensalis* Hayashi, 1975 (Crustacea: Decapoda: Pandalidae) *Zookeys*, **407**, 9-28.

Huys, R., Low, M.E.Y., **De Grave, S.**, Ng, P.K.L. and Clark, P.F. (2014). On two reports associated with James Wood-Mason and Alfred William Alcock published by the Indian Museum and the Indian Marine Survey between 1890 and 1891: determination of authorships, dates and their implications for malacostracan nomenclature. *Zootaxa*, **3757**, 1-78.

Jackson, D. and **Price, M.** (2014). Decorative stones of Cheltenham Part 2: Shops and public buildings. *Proceedings of the Cotteswold Naturalists' Field Club*, **46**(2), 188-209.

Kennedy, W.J. (2013). On variation in *Schloenbachia varians* (J. Sowerby, 1817) from the Lower Cenomanian of Kazakhstan. *Acta Geologica Polonica*, **63**(4), 443-468.

Kennedy, W.J. (2014). *Sharpeiceras australe* sp. nov., replacement name for *Sharpeiceras falloti* Kennedy, 2013, non Collignon, 1931. *Acta Geologica Polonica*, **64**(1), 109-111.

Kennedy, W.J. and Bilotte, M. (2014). Cenomanian ammonites from Santander (Cantabria) and Sopeira (Aragón, south-central Pyrenees), northern Spain. *Treballs del Museu de Geologia de Barcelona*, **20**, 21-32, 6 figs.

Kennedy, W.J. and Fatmi, A. (2014). Albian ammonites from northern Pakistan. *Acta Geologica Polonica*, **64**(1), 47-98, 26 text-figs.

Kennedy, W.J. and Klinger, H.C. (2013). Cretaceous faunas from Zululand and Natal, South Africa. Texasia cricki Spath, 1921, a lower Santonian marker fossil from the Umzamba Formation of Eastern Cape Province. *Acta Geologica Polonica*, **48**, 34-40.

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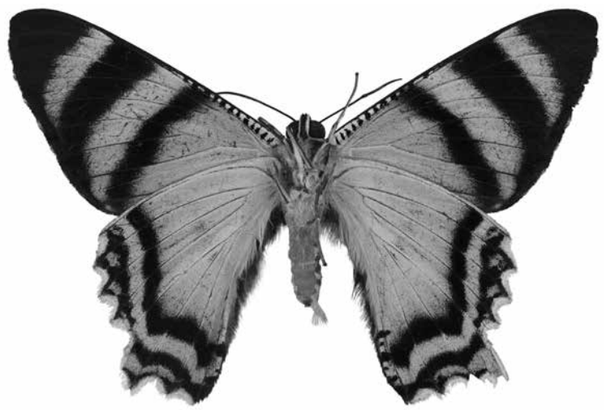

Front and back cover:
Lyssa boops (Westwood 1879) from the Light Touch exhibition (2014)