



Press release

Journey to the heart of Natural History Museum science in *Cocoon* Museum showcases science in action in new multi-media public gallery

Through never-seen-before access behind the scenes and cutting-edge interactive installations and activities, the Natural History Museum's *Cocoon* journeys deep into the heart of the Darwin Centre's new state-of-the-art scientific research and collections facility to open up the hidden world of Museum science.

Up to 2,500 people a day will travel through the awe-inspiring new public space to see some of the Museum's scientists working in molecular and imaging labs, specimen preparation areas and collections spaces. Through viewing decks, video and intercom, visitors will have an uninhibited snapshot of these once-concealed spaces. *Cocoon* also features over 40 high-tech installations and hands-on interactive activities. Visitors can experience how scientists travel to discover and name new species, prepare specimens and organise collections and how these are being used to help fight malaria or react to climate change.

Sharon Ament, Director of Public Engagement at the Natural History Museum, said, 'In the iconic Waterhouse building the public can investigate what scientists know about the natural world. In the Darwin Centre's *Cocoon* visitors will get an insight into how scientists gain this knowledge, learning what questions Museum scientists ask, how they explore and discover more about life on Earth, and why it is important.'

Meet the guides – real Museum scientists Mark Spencer, Jan Beccaloni, Max Barclay and Blanca Huertas will guide visitors through *Cocoon* via a series of films and graphics. In a life-size projection, these entomologists and botanists welcome the public to *Cocoon* and describe their curiosity about the natural world. Pass under the stunning biodiversity projections on the building's inner wall to begin your journey through *Cocoon*.

Our historical heart – the iconic historical collections go back 400 years and are the origins of the Natural History Museum. Many are on display for the first time and represent a unique piece of world heritage. Visitors can see insects collected by Darwin and Wallace and a bound herbarium volume containing plants gathered by Sir Hans Sloane from the Caribbean and Madeira. They can leaf through interactive pages from irreplaceable herbarium volumes containing plant and some insect specimens collected as far back as the seventeenth century. Visitors can also listen to commentaries on the collections and collectors including contributions made in the context of empire and slavery.



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Organising nature – About 1.5 million species have been named and described so far. But scientists debate how many might remain undiscovered – there may be up to 10 million. In an area dedicated to the science of taxonomy, visitors can discover how Museum scientists order natural history collections and how they choose names for new species. Animated interactive exhibits give visitors the chance to investigate how specimens are given their name, to become a butterfly expert and to order their own collections.

Decoding DNA – the first viewing deck overlooks the molecular lab that supports a huge variety of research projects including an ongoing study to identify the 3,500 species of mosquitoes. Visitors can see scientists extracting DNA from specimens and using a DNA handling robot to automatically pipette hundreds of samples an hour. Up to 500 million people across the planet are infected with malaria each year. DNA barcoding by Museum entomologists in these labs can swiftly identify each species of mosquito, allowing scientists to select the best methods for controlling the mosquitoes and therefore show the disease's spread. Their work can help fight the disease and shed light on evolution.

Analysing the data – here visitors walk along the outside of the 65-metre-long, eight-storey-high cocoon and will see for the first time the long sweep of the structure up close. The next window looks into a room where computers work through the data from the DNA labs and slowly build up a picture of the DNA sequences of different organisms. Museum scientists analyse and write up their results for publication, and contribute data to huge online databases, making them available worldwide. A video will explain how scientists get their research reviewed and published.

Fieldwork – this space, featuring huge plants, investigates how researchers are not confined to the Museum – they observe, survey and collect all over the world. Collections need new specimens to increase data on biodiversity or to ensure all the variation within a species is represented. This area explains the ways to collect different specimens and what is involved in organising a trip to some of Earth's wildest places. Video diaries from field trips show the highs and lows of collecting and visitors can take the challenge of planning a field trip and send a postcard home.

Preparing specimens – to last for hundreds of years and still reveal all its distinctive characteristics, a specimen must be carefully prepared. In a unique opportunity to experience the working life of a Museum scientist, a microphone will allow visitors to talk to scientific staff as they pin insect and press botany specimens collected around the world for the collection, and conserve specimens already here.

Looking closer – overlooking The Sackler Biodiversity Imaging Laboratory, visitors can see scientific staff working with herbarium sheet scanners to create high quality images of herbarium sheets to share with colleagues around the globe. This reduces the need to take a specimen out of its safe store, thereby preserving it for years to come. Compound microscopes are also used to look at tiny specimens. Visitors can take a close-up look at beautiful microscopic plants and weird and wonderful animals using interactive installations. They can then use their observations to help scientists identify mystery specimens.

Looking after the collection – visitors can see the precious collections through four-centimetre-thick, fire- and pest-proof glass windows. The cocoon is a safe, controlled environment. Its walls are 30 centimetres thick and the specimens are kept at a steady 17°C and 45 per cent relative humidity – the optimum conditions to store collections. More than just store rooms, each specimen has been collected, named and preserved for study. By studying the evidence shown by these specimens, Museum scientists try to answer some of the biggest and most complex questions we have, such as how the diversity of life evolved and how it is changing.

Collections on the go – glimpse into more store rooms and see work that goes on behind the scenes – sorting and re-sorting specimens into taxonomic groups, or preparing specimens to be sent to other scientists all over the globe who want to study our plants and insects. The collections are like a huge library of plants and animals, and scientists use them like a catalogue of all living things. Read about artists and historians who also come to look at the collections, finding inspiration and seeking answers.

NaturePlus – visitors can continue exploring *Cocoon* and be inspired by its science using a free NaturePlus card. Barcode technology will enable the public to save video clips, images and weblinks throughout their *Cocoon* journey and access them online at home or in the classroom. The NaturePlus area of the Museum's website gives visitors a personalised area to explore their collected content as well as special bonus features, participate in forums and blogs and receive RSS feeds for news, along with updates, events, citizen science surveys and exclusive offers.

Science Focus activity points will be based near viewing windows overlooking the science labs, enabling visitors to experience some of the techniques that our scientists use. Volunteers will demonstrate how scanning electron microscopes are used to study the collections and visitors will be encouraged to explore the uses of molecular techniques such as DNA barcoding. Learning activators will rove through *Cocoon* with interesting plants and insects, extending opportunities for specimen handling and personal observation.

Cocoon is supported by GlaxoSmithKline and Anglo American. As leaders in their fields, they support the Darwin Centre's mission to promote the development of knowledge, understanding and skills that are needed to make sound decisions about the science-related issues we face everyday.

Visitor information

Dates:	open from 15 September 2009
Opening times:	every day, 10.00–17.50 (last admission to <i>Cocoon</i> 17.00)
Visitor enquiries:	020 7942 5000
Admission:	free , timed booking applies – visit www.nhm.ac.uk/darwin-centre or call 020 7942 5725
Nearest tube:	South Kensington
Website:	www.nhm.ac.uk

Ends

Notes for editors

- GlaxoSmithKline (GSK) is one of the world's leading pharmaceutical and healthcare companies and is committed to improving the quality of human life by enabling people to do more, feel better and live longer. In 2008, GlaxoSmithKline's community investment was £124 million (valued using average cost of goods) and targeted health and education programmes in almost 100 countries. GlaxoSmithKline is one of the largest charitable givers in the FTSE 100 and has a long history of supporting initiatives that encourages public engagement with science. For more information, please visit www.gsk.com/community
- Anglo American is a leading diversified mining group with a presence in 40 countries. Because of its significant social and environmental footprint, sustainable development is central to the way it plans and operates its businesses from exploration through to mine closure. It works with local communities to promote beneficial development outcomes and to minimise or offset any negative impact of its operations on the environment. Anglo American has had a long relationship with the Natural History Museum and has supported the Darwin Centre as part of its corporate commitment to protecting and preserving biodiversity. The second phase of the Darwin Centre is an innovative approach to engaging the public and allowing them to explore the natural world. www.angloamerican.co.uk
- Major supporters of the second phase of the Darwin Centre include the Heritage Lottery Fund, The Wellcome Trust, Department for Culture, Media and Sport, the Garfield Weston Foundation, the Cadogan family, Professor Anthony and Mrs Angela Marmont, GlaxoSmithKline plc, the Rufford Maurice Laing Foundation, the Dr Mortimer and Theresa Sackler Foundation, the Wolfson Foundation and Anglo American plc.
- Selected by *Time Out* in 2007 as one of the Seven Wonders of London, the Natural History Museum is also a world-leading science research centre. Through its collections and scientific expertise, the Museum is helping to protect the extraordinary richness and diversity of the natural world with groundbreaking projects in 68 countries.

For more information and images, please contact the Natural History Museum Press Office:

Tel: 020 7942 5654 email: press@nhm.ac.uk (not for publication)