

**FOR IMMEDIATE RELEASE**

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The Sedgwick Museum  
of Earth Sciences

## **In Darwin's Footsteps on James Island (Isla Santiago)**

**A pioneering trip to the Galapagos Islands by University of Cambridge Geologists has begun an investigation of the cause of a unique volcanic phenomenon.**

The expedition led by Dr David Norman (Director of the Sedgwick Museum), Dr Sally Gibson (Department of Earth Sciences) and Dr Sandra Herbert (Distinguished Visiting Scholar at Christ's 2006-2007) studied the rugged, uninhabited Isla Santiago (formerly known as James Island), that has been rarely explored since Charles Darwin landed there in October 1835.

The team of seven geologists hoped to gain a greater understanding of how 'hotspots' work within the Earth's interior, and the reason for distinctive volcanic behaviour displayed on Santiago. The Galapagos Islands are located above a present day hotspot – the reason for active volcanism. Geophysical studies demonstrate that the sea floor (formed as a large, slowly moving, tectonic plate) is moving in an easterly direction and carrying with it this extraordinary patch of islands; as a consequence, the western-most island [Fernandina] shows the most recent volcanism.

Because Isla Santiago lies at the centre of the cluster of islands and associated islets, volcanic activity should no longer be present. However contrary to expectations it has demonstrated unusual patterns of volcanic behaviour in the comparatively recent past – there was a major eruption not long after Darwin visited the island. During the trip researchers investigated whether the 'hotspot' is in fact tilted, rather than vertical (as is more common) resulting in this unusual phenomenon.

During the three-week expedition the team of seven experts, including Andrew Miles, a 21-year-old Earth Sciences undergraduate, took samples from a variety of locations around the island. In part the expedition intended to re-trace Charles Darwin's steps by comparing his original rocks (in the Sedgwick Museum) with those on the island. But more importantly a more extensive suite of rocks was collected that will be subjected to modern techniques in Cambridge that will provide insights

into the geological history and evolution of this and the nearby islands comprising the archipelago.

After the specimens have been studied they will be exhibited at the Sedgwick Museum as part of a new exhibition: Charles Darwin the Geologist (funded by a Heritage Lottery Grant) that will be opened in 2009. Duplicate rocks will also be used to create smaller exhibitions at Christ's College, the Charles Darwin Research Station (on the island of Santa Cruz in the Galapagos Archipelago), in Quito (Ecuador), Santiago (Chile), at the Smithsonian Institution (Washington DC).

“The expedition was a marvellous chance to explore uncharted territory and find out more about how this magnificent island – with all its varied volcanic rocks – was formed. The Galapagos Islands have formed on the top of a sea rise (a swollen part of the ocean floor); this swelling is created by a ‘hot spot’ – where hot rocks from deep in the Earth push upward against the Crust.” said Dr David Norman.

“Santiago has remained comparatively untouched since Darwin’s original visit, meaning that there was scope to explore and develop our understanding of this fascinating area, quite literally following in the footsteps of the young Charles Darwin.”

The Galapagos Archipelago is a cluster of 13 large volcanic islands and many more associated islets and rocks located just under the equator, about 960 km (600 miles) west of Ecuador in South America.

Charles Darwin was the first to make a scientific collection from the islands in 1835. He was a young student having just graduated from Cambridge and was appointed as the naturalist on a round-the-world scientific and geographical voyage on board HMS Beagle. Darwin had spent the previous three years exploring the Geology and Wildlife of South America; in later life he maintained that the impressions created by his experiences in South America, and on the Galapagos Islands, were the source of many of his most renowned ideas.

Gaining permission for the expedition and collecting trip required agreements from the Charles Darwin Foundation, the National Park Council on the Galapagos as well as from the Ecuadorian government and proved far from simple.

Time in the Galapagos commenced with researchers and their equipment in 'quarantine' on the island of Santa Cruz (at the Research Station) to avoid contamination risks before being allowed to venture on to Isla Santiago to carry out their research. They made a video diary during their trip, charting their progress and recording thoughts and feelings on what they discovered and this will be added to the website.

The expedition was sponsored by the Department of Earth Sciences, the University of Cambridge, Trinity College, Christ's College and the National Science Foundation of the USA.

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#### Note to Editors

1) The Sedgwick Museum was founded in 1728 and is the oldest of the University Museums; its present main building was opened by King Edward VII in 1904 and, although it was innovative in its time and an excellent building within which to exhibit its internationally important collections, it presents disabled visitors with a number of challenges.

The Museum was recently awarded substantial grants from the Heritage Lottery Fund and the Designation Challenge Fund to mount an exhibition focusing on Charles Darwin's, largely unappreciated, work as a hugely important Geologist in the first half of the 19th century. The exhibition, which is scheduled to open in two phases, the first in the spring of 2008 and the second in 2009, is likely to attract considerably more visitors than at present, so improving physical access to the galleries is a high priority for the Museum.

The Sedgwick Museum welcomes over 50,000 visitors a year. The Museum is open Monday – Friday 10.00 - 1700; Saturday: 10.00 – 16.00.

Admission is FREE.

[www.sedgwickmuseum.org](http://www.sedgwickmuseum.org)

#### Press and media enquiries

Dr David Norman  
Sedgwick Museum of Earth Sciences  
University of Cambridge  
Downing Street  
Cambridge  
CB2 3EQ

Telephone: (01223) 333456

Fax: (01223) 333450

Email: [sedgwickmuseum@esc.cam.ac.uk](mailto:sedgwickmuseum@esc.cam.ac.uk)