

Issue 17  
Winter 2008/09

# Trilobite

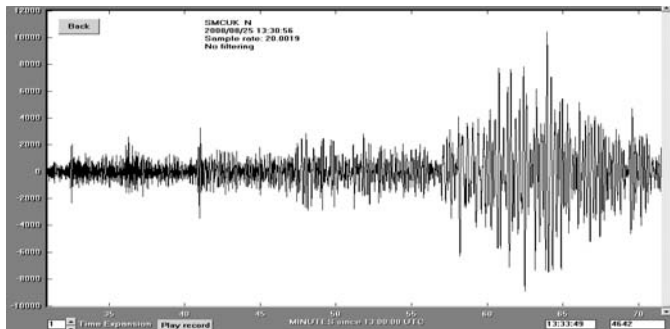
Newsletter of the Sedgwick Museum  
and the Friends of the Sedgwick Museum



The Sedgwick Museum  
of Earth Sciences

## Seismic Events at the Museum

The Museum has a new seismological station to record the shock waves created by earthquakes.



Seismic trace of an earthquake in Western Xizang, China. The shockwave took 12 minutes to reach Cambridge.

The seismometer is part of the Schools' Seismology Project, a new initiative run by the British Geological Survey (BGS) which encourages secondary schools to record and use real seismic data from the thousands of earthquakes which occur all over the world each year. Funding for this project has come from the Institute of Physics and the Friends of the Sedgwick Museum.

The Sedgwick seismometer has been logging data since early August, and has recorded earthquakes in China, New Zealand and Indonesia. This data will be shared with schools all over the UK and the US where a similar project has been running for several years. We are also planning to develop new learning resources about seismology as part of the *Darwin the Geologist* project.

The seismometer has also provided project work for this year's Learning and Outreach Prizewinner, geology graduate Joel Gill. During his time at the Museum, working with Education Officer Annette Shelford, Joel has researched and put together a hands-on science show and experiments for our exciting activity day *Seismographics* (see listing, right). He has also worked with local artist Carolyn Cooke to develop seismic art activities which use some of the physical principles that allow us to measure earthquakes. Joel and Carolyn have both consulted with earthquake experts Paul Denton from BGS and Prof James Jackson from the Department of Earth Sciences while planning the activities. If you want to find out more, you'll have to come along and join in!

## Events and Exhibitions

Unless otherwise stated, events are free with no booking required and take place in the Sedgwick Museum. Full details are available on: [www.sedgwickmuseum.org](http://www.sedgwickmuseum.org)

### Cambridge Festival of Ideas

22<sup>nd</sup> October to 2<sup>nd</sup> November 2008

A new event organised by the University of Cambridge. See [www.cambridgefestivalofideas.org](http://www.cambridgefestivalofideas.org) for more details.

### Drop In and Draw

27<sup>th</sup>, 29<sup>th</sup>, 30<sup>th</sup> & 31<sup>st</sup> October 2008, 11am – 1pm

£1.50 per child for materials. Children under 16 must be accompanied by an adult. No need to book, but please register and pay on arrival. Investigate fossils and rocks close-up and draw with pencils, pastels, paper and sand.

### Seismographics

Saturday 25<sup>th</sup> October 2008, 10 am - 4 pm

Discover earthquakes through science and art. What has the Sedgwick Museum seismometer recorded recently? Learn about how we record earthquakes. Work with an artist to explore how earthquake science and the effects of earthquakes on people can inspire creative work.

### Performance Poetry – Darwin Young Poets

Saturday 25<sup>th</sup> October 2008, 5:30 - 6:30pm

Find out how young poets working with Jacob Sam-La Rose have responded to the life and work of Charles Darwin.

### She Sells Sea Shells on the Sea Shore

Saturday 1<sup>st</sup> November 2008, 1:30 – 4pm

Meet some of the creatures that swam in, crawled beneath, or flew above the Jurassic Sea, and find out about famous fossil collector Mary Anning who sold some of her incredible finds to Adam Sedgwick for his museum. Booking required.

### Christmas Corals

Saturday 6<sup>th</sup> December 2008, 10 am - 4 pm

Drop in to follow in the footsteps of Charles Darwin and find out how coral reefs are formed. Discover corals from around the world and help us to crochet the Sedgwick Museum's very own reef or make your own festive decorations.

### Twilight at the Museums

Wednesday 18<sup>th</sup> February 2009, 4:30 – 7:30pm

Lights out at the Sedgwick Museum! Bring your torch and join in with our Twilight Trail. Additional University of Cambridge museums will be also open. Please see [www.cam.ac.uk/museumevents/](http://www.cam.ac.uk/museumevents/) for details.

### Family Learning Event

Saturday 21<sup>st</sup> February 2009, 10 am - 4 pm

Please see the Museum website for details nearer the time.

**The Sedgwick Museum of Earth Sciences**, Downing Street, Cambridge CB2 3EQ

**Opening hours:** Monday – Friday 10 am – 1 pm and 2 pm – 5 pm Saturday 10 am – 4 pm

**Telephone:** (01223) 333456

**Fax:** (01223) 333450

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

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





## Tools of the Geological Trade

Explore some of the tools used by 19<sup>th</sup> century geologists, such as Charles Darwin, through a new interactive resource.



The Sedgwick Museum's new exhibition *Charles Darwin - Becoming a Geologist* tells the story of Darwin's early life, his interest in the natural world and his development as a geologist at home in Shrewsbury, at the University of Edinburgh and at Cambridge. The exhibition also focuses on the skills and tools that Darwin had to master to become an expert geologist.

A computer interactive, *Tools of the Trade*, has been created to complement the exhibition and is available via a touch screen in the Museum and through the Museum's website. This allows visitors to explore the tools that Darwin used to map the locations he visited and to analyse and identify the geological specimens he collected.

Want to try your hand as a geologist aboard HMS *Beagle*? Visit [www.sedgwickmuseum.org/darwin/](http://www.sedgwickmuseum.org/darwin/) and click on *Tools of the Trade*.

## Help Charles Darwin Speak Again!

The Sedgwick Museum is evaluating options for including an audio guide as part of the new permanent exhibition *Darwin the Geologist*, due to open in July 2009. We want to set up two focus groups to exchange ideas about potential audio guide systems.

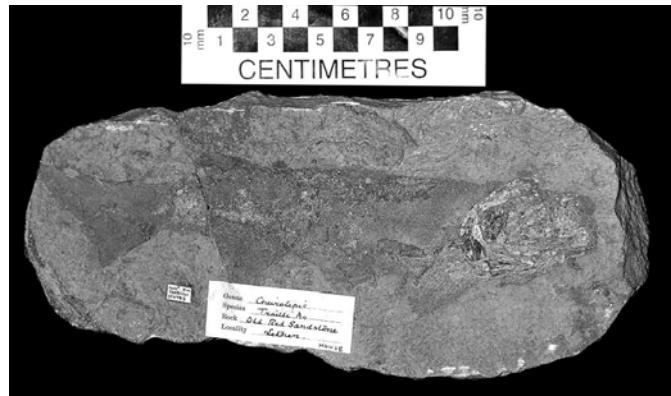
Our first focus group will be on Wednesday the 29<sup>th</sup> October and aims specifically to get the views of visually impaired visitors. The second group, on Wednesday 5<sup>th</sup> November will be open to everyone.

This is a great opportunity for people to really get involved in something new and exciting at the Sedgwick Museum. To learn more about the sessions, or to volunteer to take part, email the Museum at [sedgwickmuseum@esc.cam.ac.uk](mailto:sedgwickmuseum@esc.cam.ac.uk) or phone us on 01223 333456.

## My Favourite Fossil

### A very special *Cheirolepis*

On display in the Sedgwick Museum in the "Seas, Lakes and Rivers" section (purple window banner) is H4488, a Middle Devonian fish from the north of Scotland. On closer inspection this ray-finned fish reveals some unusual features. As a child, I collected in the Old Red Sandstone quarries near Montrose on the east coast of Scotland. It often took days to find even one fossil fish, teaching me patience and persistence in collecting, so I can appreciate just how the collector felt to find this.



The first striking thing about this fossil is the unusual reddish-pink colour. Most other Devonian fish bone is black and shiny. The colour is characteristic of fossils from the Lethen Bar locality. This 'fish bed' and the well-known examples from Caithness, Sutherland and the Orkneys were laid down in a vast inland water body called 'Lake Orcadie'. Lethen Bar was near the southerly lake shore, which alternated between dry land and shallow water with the seasonal fluctuations in lake level.

In 1999, researchers noticed the fossilised remains of Devonian chemotrophic bacteria in these fossil fish. Chemotrophs use chemicals, rather than sunlight, as an energy source to power their metabolism. These bacteria had oxidised the iron minerals in the sediment for energy and hence turned the rocks red and 'rusty'.

In 2005, researchers at the University of Aberdeen, discovered internal organ preservation in some of these fishes. Mineralised scales and bone fossilise easily, but how can a trace of organs be preserved? Step forward iron-loving chemotrophic bacteria! In a decomposing carcass, the internal organs are rich in haemoglobin. These are now represented by dark burgundy coloured stains within the bodies of the fish. In our example, three noticeable stains occur near the head and by analogy with the published study the short fat sausage-shaped trace might be the kidney or liver.

This fossil was bought from a 'Mr Robert Damon' in 1885. He was a famous international fossil dealer based in Weymouth, Dorset. Had he noticed the strange features of this fossil, he would have probably raised the asking price! Next March I am talking to the 'Friends' on some people who collected and described Devonian fish back in the 1800's. Come along and find out more!

**Dr Lyall I. Anderson,**  
Newton Trust Research Fellow, *Darwin the Geologist*



## Recent Friends’ Events



Above: Friends visit to the North Pennines, June 2008.

Below: Alan Dawn (left of centre in photo) leading the Friends’ visit to Ketton Quarry, Stamford, in May 2008.



## Crafty Volunteers Needed

Calling all crocheters! To all crafty coral fans - we need your help! Are you available to volunteer on the 6<sup>th</sup> December? If you think you can help people learn to crochet or if you can help build the Sedgwick Museum crochet coral reef, we would greatly appreciate your handicrafts. Contact Suzy at [kant06@esc.cam.ac.uk](mailto:kant06@esc.cam.ac.uk) or 01223 333450.

## Cambridgeshire Geology Club

Talks take place at The Friends Meeting House, 91-93 Hartington Grove, Cambridge CB1 7UB at 7.30 pm. For more information, contact Alan Murphy on 07768 821385 or Corinna Tabor on 01223 277381 or email [cambs.geology.club@hotmail.co.uk](mailto:cambs.geology.club@hotmail.co.uk)

**13 October 2008**

Talk: The Volcanoes of Antarctica

**10 November 2008**

Talk: Evolution of Darwinism in 20<sup>th</sup> Century America

**8 December 2008**

Talk: Mantle Plumes and the Galapagos Islands

**12 January 2009**

To be confirmed

**9 February 2009**

Talk: Caspian Sea and the Baku-Ceyhan Oil Pipeline

**9 March 2009**

Talk: The Forming of St.Ives, Cambridgeshire

**20 April 2009 and 11 May 2009**

To be confirmed

## Events – Spring/Summer 2009

### Visit: Royston Chalk Edge

**Saturday 25<sup>th</sup> April, 11am**

This visit will examine the stratigraphy and landscape of the Chalk edge in the Royston area, with emphasis on the effects of Ice Age processes on the landscape, and the effects of the landscape on the subsurface water system. The Chalk cave in Royston will also be visited. Leaders will include Marjorie Veale, Colin Forbes and Peter Friend.

**Please register by 11<sup>th</sup> April** so that we can send details.

### Visit: Sediments and shells of the North-west Norfolk coast

**Saturday 9<sup>th</sup> May, 11am**

This day visit, led by Peter Friend and Liz Hide, will visit beach localities around Wells-next-the-Sea, to examine the processes that move pebbles, shells, sand and mud, on this attractive area of unspoilt coast. **Please register by 25<sup>th</sup> April** so that we can send details.

### Visit: Great Ouse Valley at St Ives

**Saturday 23<sup>rd</sup> May, St Ives, 11am**

St Ives is one of the most attractive market towns in Cambridgeshire. Includes a walking tour of the town, lunch and a talk in a local hostelry, a visit to the Norris Museum, and a walk along a section of the Great Ouse Trail to illustrate the way the evolution of the Great Ouse has created the landscape. **Please register by 9<sup>th</sup> May.** Leaders: Nick Barraud, Peter Friend, Bob Burn Murdoch.

### Weekend Visit to the Mendips and North Somerset

**Friday 12<sup>th</sup> to Sunday 14<sup>th</sup> June**

This year we will be visiting the Mendip area, and will be led by Dr Martin Whiteley who has wide experience of leading parties around the varied geology and landscape of this fold range of hills extending between Cheddar and Wells. Because of the complex pattern of narrow lanes, we are planning to rent mini-buses for the field visit programme, which will occupy Saturday and the morning of Sunday. As usual, **we ask people to make their own accommodation arrangements.** Our “centre” will be at the Court Hotel (01761 232237), Chilcompton, near Radstock. **Please register your intention to come with us as soon as possible, because it may be necessary to limit the total numbers.**

### AGM and Museum Showcase

**Tuesday, 16<sup>th</sup> June, Department of Earth Sciences, 6 pm, doors open 5.15 pm**

Tea and coffee available from 5.15 pm. We specially appeal to local members to attend this meeting. In addition to voting for the Committee for 2009-10, this is the opportunity to review the way the Friends have been supporting the work of the Sedgwick Museum, particularly the Student Prize Placements, Museum staff conference support, and various improvements that are being carried out in the Museum, including work on the Darwin celebration materials.

### Midsummer Tea Party

**Saturday 27<sup>th</sup> June, 3-5 pm, Bullard Laboratories, Madingley Rise, Madingley Rd, West Cambridge**

Cakes and strawberries etc. will be provided for this celebration of the summer to come! Garden games will be available for children and grandchildren. Visits to nearby buildings of Earth Science interest will be arranged.



## Forthcoming Friends' Events

Unless otherwise stated, events will be held in the Department of Earth Sciences (entrance below the Sedgwick Museum). Parking is available on the Downing Site during these events, with access from Tennis Court Road. Before talks and experimental classes held in the Department, tea, coffee and biscuits will be available from 6.15 pm, and the event will start at 7.00 pm. At most events we will invite donations of £1/head towards expenses and the support of the Museum.

### Contacting the Friends

Some of the events listed require pre-payment and/or pre-booking. Prepayment should be by cheque posted to Friends of the Sedgwick Museum, Department of Earth Sciences, Downing St., Cambridge CB2 3EQ. Registering, booking or sending any message should be ideally by email to [swri07@esc.cam.ac.uk](mailto:swri07@esc.cam.ac.uk), with a copy to [pff1000@esc.cam.ac.uk](mailto:pff1000@esc.cam.ac.uk). If you cannot access email, please phone 01223 333400, or write to the above address. If you have had no acknowledgement within two weeks, kindly repeat your communication.

### Events – Autumn 2008 Programme

#### Talk: Meteorites: messengers from space

Tuesday 21<sup>st</sup> October, Department of Earth Sciences, 7 pm, doors open 6.15 pm

Dr Stephen Reed (Earth Sciences, University of Cambridge) will describe how recent work on meteorites has added to knowledge of our solar-system.

#### Experimental Geology Class: Strength of rocks

Tuesday 4<sup>th</sup> November, Department of Earth Sciences, 7 pm, doors open 6.15 pm

Dr Mike Tuke has devised a series of experiments for members working individually or in pairs. In this class, you will be working out the relative strength of different types of rock by a method which does not involve breaking the rocks. Only very simple equipment will be used, and the sample rocks will be provided. You will not need a lab coat. ***The class will be limited to twenty people and tickets must be obtained beforehand by phoning Dr Mike Tuke on 01480 457068.***

#### Talk (Trees and Wood series): Wood in buildings, building in wood

Tuesday 18<sup>th</sup> November, Department of Earth Sciences, 7 pm, doors open 6.15 pm

Dr Michael Ramage (Architecture, University of Cambridge) will round off the Trees and Wood series by talking about practical aspects of the use of wood, and how the age of wood in some ancient buildings is being determined.

#### Friends' Christmas Party

Tuesday 9<sup>th</sup> December (note change of date), Department of Earth Sciences, 6 – 8 pm

A lively programme of short talks, mainly by students, will be interspersed with mulled wine, bread, cheese and other snacks, for which we will ask for a donation of £5 at the door. ***Please help us to cater by booking a few days ahead (see above for contact details).***

### Events – Winter 2009 Programme

#### Talk :The never-ending story of sand

Tuesday 13<sup>th</sup> January, Department of Earth Sciences, 7 pm, doors open 6.15 pm

Dr Michael Welland's book with the above title will just have been published in the USA, and will be published by the Oxford University Press later in 2009. He will tell us some of the stories he has uncovered. This will be the opening event of a series of events on sand.

#### Experimental Geology Class: Porosity of Rocks

Tuesday 27<sup>th</sup> January, Department of Earth Sciences, 7 pm, doors open 6.15 pm

This event will be run in the same way as that on 4<sup>th</sup> November 2008. ***The class will be limited to twenty people, and tickets must be obtained beforehand by telephoning Dr Mike Tuke on 01480 457068***

#### Talk: Geological Oceanography: where water meets mud – current tales from the deep

Tuesday 17<sup>th</sup> February, Department of Earth Sciences, 7 pm, doors open 6.15 pm

Professor Nick McCave (Earth Sciences, University of Cambridge) will pick out some of the discoveries and ideas that have come from his deep-ocean cruises.

#### Talk: An Old Red Angling Association – Sedgwick's fishing trips in the Devonian

Tuesday 3<sup>rd</sup> March, Department of Earth Sciences, 7 pm, Doors open 6.15 pm

Dr Lyall Anderson who has joined the Department to work on the collections sent back by Charles Darwin during the voyage of the *Beagle*, will talk about some other discoveries he has been making.

#### Sedgwick Birthday Dinner

Saturday 14<sup>th</sup> March, Christ's College, 7.30 pm

The after-dinner speaker will be Professor James Jackson who is the new Head of the Department of Earth Sciences. Menus and prices have not yet been decided, but the price should be between £32 and £40, depending on whether soft or alcoholic drinks are taken. Menus, prices and a booking form will be sent out to people ***who have registered by 14<sup>th</sup> February***. In response to booking forms and cheques, we will send out tickets.

(Spring/Summer Programme continues on page 3)

## Join the Friends

The Friends of the Sedgwick Museum exists to support and encourage the development of the Sedgwick Museum and promote the collections to a wider audience. Membership is open to anyone. Annual subscriptions are: £6 (under 18's), £8 (full-time students, unemployed or over 60's), £12 (individual) or £18 (family).

For further details and an application form please ring the Department of Earth Sciences on (01223) 333400 or write to Reception (Friends), Department of Earth Sciences, Downing St., Cambridge CB2 3EQ or visit the Museum website [www.sedgwickmuseum.org](http://www.sedgwickmuseum.org)