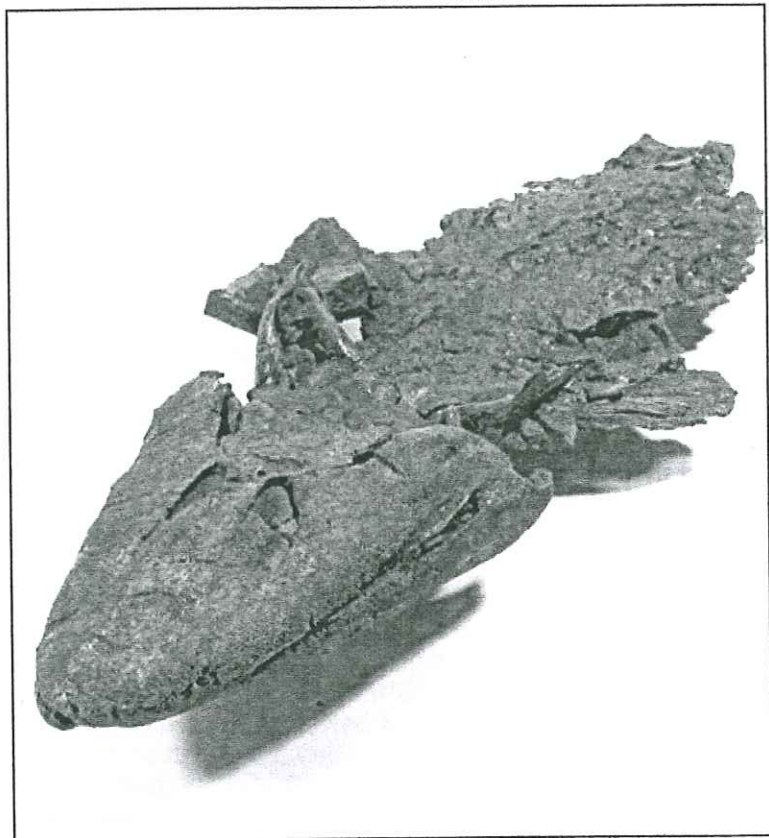


# CHARNIA

SPRING 2006



**LEICESTER LITERARY &  
PHILOSOPHICAL SOCIETY  
THE NEWSLETTER OF  
SECTION C (GEOLOGY)  
Website: [www.charnia.org.uk](http://www.charnia.org.uk)**

**Leicester Literary and Philosophical Society Section C (Geology)  
Chairman's Report 2005-2006 by Mark Evans**

This is my first report to the Section as Chairman, and before getting down to business, I must thank my predecessor, Andrew Swift, for his years of service as Chairman. It will be a tough act to follow.

Once again, we have had a very successful year. The Section's activities for this session started with the summer programme of field meetings. Our first trip, lead by John Hudson, was to the Lincolnshire Limestone of Clipsham and the surrounding area. Our weekend excursion this year was to the Isle of Purbeck and East Dorset, and was led by Dave Martill. It was an excellent meeting, despite wet weather on the Sunday, and I would also like to thank Steve Etches of Kimmeridge for showing his unrivalled fossil collection to the group. In June we had an evening meeting at Barwell to mark the fortieth anniversary of the fall on the eponymous meteorite, while July and August saw visits to Griff Quarry (Nuneaton) and Wren's Nest (Dudley) respectively. In September we had a joint meeting with the Warwickshire Geological Conservation Group to examine the Pleistocene deposits of Warwickshire, and investigate the watertightness of the concept of 'Lake Harrison'. This has been Dennis Gamble's last season as field secretary after nine years, and I would like to thank Dennis on behalf of the Section for all his hard work.

In October we reconvened our winter programme in our new adopted home of the Ken Edwards Building, and had what I think was an excellent series of talks on a wide variety of geological topics. I was especially pleased by the size of the audience: we topped fifty on several occasions, and I would like to thank all members for their support of the Section over the last year. We started with a report on some strange fossils of the Wenlock Limestone, followed by volcanism, more strange fossils from China and South Africa, and a somewhat frosty assessment of the theory of "Snowball Earth". Pliocene ostracods completed our first set of Wednesday night talks.

Once again, our Parent Body lecture was given by a leading light in British geology. This year Professor Bill Maguire, who some may remember from our "Dangerous Earth" Saturday School a few years ago, set out our odds on surviving a plethora of geohazards from asteroid impacts to tsunamis. Our last meeting of 2005 was our annual Christmas Meeting, held at the Museum. Once again, the somewhat select group in attendance contributed to an admirable spread of both festive nibbles and divertissements. The new year saw us pick up where we had left off with



lectures on some exquisite German fossils, the latest on the Barwell meteorite, "Geodiversity", and the breaking news on Devonian tetrapods. The annual Members Evening at the Museum saw four talks on a range of topics from some of the "elder statesmen" of the Section, and was well supported in somewhat makeshift accommodation. I look forward to next year's meeting in the newly refurbished meeting room.

This year's Saturday Seminar, "Fire, flood, drought and deep-freeze: the turbulent geological evolution of Leicestershire, Rutland and surrounding areas", built on the success of last year. Once again we held this meeting in the Ken Edwards building, and organised it ourselves. As we had close to 100 people in attendance, we wouldn't have been able to fit everybody into our old venue at Vaughan College. I must thank Andrew Swift, who convened the meeting, and the subcommittee and helpers who made it all possible. I hope that you will agree that the decision to run these meeting independently of the Institute of Lifelong Learning has been shown to be the right one.

Our internet website, [www.charnia.org.uk](http://www.charnia.org.uk), continues to be a font of information on the Section and its activities, both past and present and future. We are now the top-ranking search result if you enter "charnia" into the Google internet search engine, which is a tribute to the efforts of our webmaster, Dennis McVey. If you haven't found it yet, I urge you to do so. You never know, you may find a photo of yourself out there in cyberspace! Our earthbound newsletter "Charnia", of course, also continues with its mix of articles, programme items and editorials, although unfortunately we lost an issue this year. This is the point of contact for many of our members, and can never be replaced by the new-fangled electronic media, and I wish it well for the future. This year was the first in which subscriptions were renewed in October rather than March, and we had a few teething problems with our new arrangements. I am conscious that some members may not have seen details of the winter programme until they received their membership cards in October. However, armed with this experience, we will overcome this hiccup for this coming year. Thank you for your support of the Section over the past twelve months, and I hope to see you all in the session of summer and winter meetings.

Finally, on behalf of the Section I would like to thank all the Officers and Committee for all their hard work over the past year, particularly Joanne Norris in her role as Secretary.

## **2006 Field Excursion Programme**

### **21 May 2006**

Welton-le-Wold, Nr. Louth, Lincolnshire  
Ice Age deposits and Early Man  
Leader: John Arum

Welton-le-Wold: A geological archaeological time capsule

The quarry at Welton le Wold contains the oldest stratified archaeological remains in the East Midlands. The quarry contains a sequence of lower and upper gravels formed during the Purfleet and Avelly Interglacials between 400,000 and 200,000 years ago. The upper gravel has yielded stone tools (flint hand axes and flakes) and the remains of elephant, deer, horse and bison. A series of tills formed from ice sheets during the Saalian and Devensian Glaciations lie above the gravels. Welton le Wold is one of a small number of sites where evidence of the Saalian Glaciation is recognised in Britain.

### **07 June 2006**

Building stones of Leicester  
Meet 7.00p.m. site of former Charles Street Police Station  
Leader: Dr. Albert Horton

Discover the origins of the building stones of Leicester's City Centre. Our leader will guide us around the city centre, showing us the wide variation in stone that exists. We will view the stones mineral and fossil content, and also look at the effects of pollution and weathering.

### **23-25 June 2006**

A weekend in the Mendips  
Carboniferous and other deposits  
Leader: Andrew Swift

This promises to be an exciting weekend visit to the Mendips to view some classic geology, such as the De La Beche Unconformity, Triassic fissure fills, and the onlap of the Penarth Group on the Carboniferous





Leicester Literary and Philosophical Society, Section C (Geology)

Winter Programme, 2006-2007

All held at 7.30pm in Lecture Theatre 3, Ken Edwards Building, on the main University of Leicester campus, except where stated.

Details: Chairman Mark Evans, 0116 225 4904, Mark.Evans@Leicester.gov.uk

2006

Wednesday October 4<sup>th</sup>

Karolyn Shindler: *Discovering Dorothea: The life of the pioneering fossil hunter Dorothea Bate.*

Wednesday October 18<sup>th</sup>

Dr David Tappin (British Geological Survey): Theme: Indian Ocean Tsunami

Wednesday November 1<sup>st</sup>

Dr John Hutchinson (Royal Veterinary College): *Biomechanical approaches to reconstructing dinosaur locomotion.*

Wednesday November 15<sup>th</sup>

Dr Mark Stephens (University of Leicester): *Ancient Rivers and the Palaeolithic: The National Ice Age Network in the East Midlands.*

Wednesday November 29<sup>th</sup>

Dr David Unwin (University of Leicester). Theme: Pterosaurs.

Wednesday December 13<sup>th</sup>

Christmas Meeting, New Walk Museum, Leicester.

2007

Wednesday January 17<sup>th</sup>

Graham Walley (Leicestershire Heritage Services). *The Joy of RIGS: recent work on Leicestershire's geological sites.*

Monday January 29<sup>th</sup>

Parent Body Lecture, New Walk Museum, Leicester

Prof. Norm McLeod (Natural History Museum). Theme: Extinction.

Wednesday January 31<sup>st</sup>

Members Evening, New Walk Museum, Leicester.

Wednesday February 14<sup>th</sup>

Dr Mark Williams (University of Leicester). Theme: Climate, date TBC

Wednesday February 28<sup>th</sup>

TBA.

Wednesday March 14<sup>th</sup>

TBA

March 2006

Annual Saturday Seminar, Theme: TBC.

Wednesday March 28<sup>th</sup>

Annual General Meeting, and Chairman's Address

Mark Evans (New Walk Museum, Leicester). *The Palaeontology of Leicester, Leicestershire and Rutland.*

**Biomechanical approaches to reconstructing dinosaur locomotion.**

**Dr John Hutchinson, Royal Veterinary College,**

I will present an array of biomechanical studies I've conducted to determine how specific dinosaurs moved, and how general aspects of dinosaur locomotion evolved. These range from simple functional morphology-based approaches united with experimental studies of living animals, to simple mathematical and two-dimensional calculations, all the way up to fully dynamic, moving, three-dimensional simulations of whole limb, body, and muscle/tendon function. These approaches help to show how dinosaur locomotion evolved gradually from the first upright bipeds 235+ million years ago to the first modern birds over 65 million years ago. I also show how the largest bipedal dinosaurs were limited to moderately upright leg poses (not nearly as crouched as birds or as columnar as elephants) and not very extreme speeds (under 40 kph). This enriches our knowledge of how large land animals function similarly and differently, and how size and locomotion evolve in concert.

**Ancient Rivers and the Palaeolithic: The National Ice Age Network in the East Midlands.**

**Dr Mark Stephens, University of Leicester**

The purpose of the National Ice Age Network is to raise awareness and improve our understanding of England's Ice Age heritage. Our work focuses in particular on the many types of Ice Age evidence to be found in England's sand and gravel quarries, including Pleistocene sediments that potentially contain fossil evidence of past environments as well as archaeological evidence for early human presence and ways of life. The Network is based at four regional centres: the University of Birmingham, the University of Leicester, the University of Southampton and the University of London. Each centre is responsible for visiting its region's sand and gravel extraction sites, with operator permission, with a view to assessing their likely potential for Ice Age remains. The team at the University of Leicester are responsible for visiting aggregates extraction sites in the East Midlands (from Lincolnshire to Bedfordshire) and Norfolk. Although previous finds are few in the East Midlands, a good potential exists for exciting Palaeolithic discoveries there. For example, the ancient Bytham river flowed through Leicestershire, Lincolnshire and Norfolk more than half a million years ago and may have provided an important migration route for early humans from mainland Europe. We are also assessing quarries of younger river valley deposits e.g. the Trent and the Ouse for potential Palaeolithic and palaeoenvironmental information. Preliminary findings will be presented in this talk from quarry assessments across the East Midlands and will put into the wider significance of environmental change and archaeology in NW Europe.

[THE ABOVE ARE WINTER TALK EXTRACTS]

**LLPS Natural History Section, Summer Programme**

**SATURDAY, 20th MAY**

Cribb's Meadow National Nature Reserve, Leics. Leader: Jenny Harris, Senior Conservation Officer, L.R:W.T

**SATURDAY, 3rd JUNE**

Watermead Country Park. Birstall, Leics. Leader: Monica Gillham

**SATURDAY, 17th JUNE**

Naturescape Wild Flower Farm, Langer & Bingham Linear Park, Notts.

**SATURDAY, 1st JULY**

Lea Meadows Nature Reserve Leader: Steve Woodward

**WEDNESDAY, 19th JULY**

Croft Hill, Croft, Leics. Leader: Sue Walton

**SATURDAY, 29th JULY**

Stanford Reservoir, Lutterworth, Leics. Leader: Doreen Thompson

**SATURDAY, 19th AUGUST**

Foxton Locks, Leics. - bat walk & moth trapping. Leaders: Karen and Karl Letten & Ray Morris

**SATURDAY, 9th SEPTEMBER**

Dimmisdale, Heath End & South Wood, Leics./Derbys. - landscape/wildlife walk. Leader: Tony Squires

**SATURDAY, 30th SEPTEMBER**

Hambleton Peninsula, Rutland Water. Leader: Jan Dawson

**WEDNESDAY, 11th OCTOBER**

First WINTER Meeting  
Members' Slide and Exhibition Evening Council Room, New Walk Museum, 7.30 p.m.

**SUNDAY, 15th OCTOBER**

Prior's Coppice Nature Reserve, Braunstone, Rutland. Fungus foray-Joint Meeting with Leics. Fungi Study Group Leader: Richard Iliffe, L.F.S.G.

Unless otherwise stated, excursions are by private transport meeting on site.

Contact Hon. Sec. Sue Walton (0116 286 6408) for further information.

**LEICESTER LITERARY & PHILOSOPHICAL SOCIETY SECTION C GEOLOGY  
STATEMENT OF ACCOUNTS TO 28TH February 2006**

	2005-06	2004-05	EXPENDITURE	2005-06	2004-05
<b>RECEIPTS</b>					
Cash in Hand	14.64				
B.S. Bal	1075.13	716.12	Geologists' Association	32.00	31.00
Subscriptions	616.00	644.00	Geologists' Assn. Insurance	136.00	136.00
Donation	3.00	10.00	Charnia Printing	68.02	133.92
Refreshments (nett)	15.99	34.91	" Postage	42.00	
Saturday Seminar	659.90	1218.00	Membership cards	23.10	
Stamps (ex-Charnia)	1.26		General Postage	15.51	58.76
Bank Interest	12.06	7.87	Stationery	25.14	16.76
Subs re 2005-06		21.00	Refreshment Exes 04/05	275.05	7.64
			Speakers Exes	50.00	190.05
			Joint Meeting	24.00	58.00
			2005 Sat.School	26.85	803.91
			2006 Sat Seminar (to date)	39.48	9.49
			Internet - Domain	41.11	23.90
			Water Heater + Kettle		80.00
			Deposit re Field Trip		12.50
			University of Leicester		
			B.S. Bal.	961.48 ✓	
			Bank Bal	608.83 ✓	
			Chqs not pres.	(82.00)	
			Cash	111.41	
				1599.72	1089.77
	2397.98	2651.90		2397.98	2651.90

*Examined by Shirley Bewley  
and found to be correct 22/2/06*