



Down to Earth

extra

Issue 68 August 2018

SPOTLIGHT

- First half of 2019 now booking!
- Late vacancies for Autumn 2018 caused by cancellations - ask about special prices!
- Our Autumn programme is fully revealed!

We like bringing you the best pictures for DtoE extra! This image shows white phonolitic pumice interbedded with black basaltic scoria. The location is Curvas del Pastel on Tenerife. (Photo: Chris Darmon)

From the Editor...

I don't know whether you caught them, but BBC4 recently put out a series of three live broadcasts from the Jurassic Coast Geopark, under the title "*Beach Live: Jurassic Coast Revealed*". The programmes aired on three consecutive nights, July 17, 18, 19 and each lasted an hour.

Established TV presenters, Dan Snow, Lucy Cooke and Niall Strawson worked closely with the Jurassic Coast's own geologist Anjana Khatwa Ford to bring out many aspects of the famous coastal environment. Each of the programmes came from the beach at Charmouth and the nearby Heritage Centre.

Luckily for the programme makers, the weather was warm and sunny on each evening, although they did have some problems with the tidal currents when it came to live diving in search of a second World War tank! Geology shared the programmes with history, legend and even art, but that's what coasts are all about, so we shouldn't mind sharing the time.

For me, the programmes were fresh and exciting. The presenters were genuinely engaged with the subject matter and the enthusiasm was infectious. Never again will the media be able to proclaim that 'rocks are boring'. The British people have a deeply held love affair with the beach environment and non more so than on the Dorset Coast. Each night people shared their fossil finds with us all.

However, I acknowledge that there are many of you who may not have been as impressed as me. If you're one of them, remember that you weren't the target audience. Judge the success of the venture by how many people did get turned on to rocks and fossils. We get precious few opportunities like this, so let's celebrate! You can still see the programmes on BBC i-player.

Chris Darmon

Down to Earth extra Editor

There's lots of information to absorb in this issue of Down to Earth extra - enjoy!



news update

Government agrees to allow Quadrilla to begin fracking at its Preston New Road site in Lancashire...

It has taken a total of seven years and has involved countless hours of scrutiny and it has been opposed at every stage, but now Quadrilla has been granted a licence for fracking in Lancashire. On July 17th, amid final plans to commence fracking, the company announced that it had completed a second well at the Preston New Road site.



The Preston New Road site as it looked a few months ago. (Photo: Drill or Drop)

Fracking is expected to begin in late August or early September at the Preston New Road site, between Blackpool and Preston. The operation has been the focus of 18 months of protests since work on the site started. Even as the decision was being announced, protesters

were being forcibly removed, having chained themselves to heavy pipes at the site. In the weeks and months to come, Quadrilla will now have the opportunity to test whether fracking can be carried out commercially in the UK. In the past few years the energy market in the UK has changed out of all recognition and in some ways the case isn't as strong as it once was. That said, there's still a market for the gas and prices have remained high. The public will want to know that Quadrilla is a credible and safe operator.

Quadrilla, and its investors will want to know that it can be profitable in the medium and longer term, whilst protesters just want it to end. As for the Preston New Road site, the locals can expect a lot of activity in the coming few weeks with lots of equipment being brought in and heavy lorry movements. The protesters have vowed to keep up their activities, despite the threat of legal action.

Scottish gold secret is finally revealed...

A gold nugget weighing 85.7 grams that was found in a river at Wanlockhead in the Scottish Borders more than two years ago has finally been revealed.

The gold dubbed 'the Douglas nugget', is estimated to be worth around £50,000. This reflects its value on the gold market and also its

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This is what 85.7 grams of gold looks like, the Douglas nugget in all its glory (Photo: Paul Jacobs)

rarity in Scotland. It is claimed to be the largest gold nugget found in the UK for 500 years. Its size, suggests that it had not travelled far from the mother lode.

The man who found it wishes to remain anonymous, but is known to be in his 40s. He found the gold, not by using traditional panning methods, but by donning a wet suite and a snorkel and lying face down in the river. This is a method known as 'sniping'. He said "I took off my glove and picked it up, jumped out of the water and screamed 'bingo' to my friend."

Currently the nugget is safely stored in a safety deposit box, but it is hoped that it will, one day, be secured for the nation. The finder may have no choice, but to hand it over to The Crown Estate as treasure trove.

The announcement of the find has created a mini 'gold rush' in the Wanlockhead area with people seen panning in the local river on a daily basis. It has also brought additional visitors to the Wanlockhead Lead Mining Museum which has to be good for the local economy and survival of this remote community.

You can find out much more on this story on the internet.

Chris is forced to take an Autumn break, please bear with us...

Due to planned surgery Chris Darmon is having to take an Autumn break. This will not affect any of the planned residential trips, but in order to take the strain off his colleague, Colin Schofield, it has been decided that the planned face to face-to-face courses in Sheffield, Chesterfield and Manchester will not run.

Classes will re-commence in January when the subject will be '*World Geological Adventures*'. To make up, Day Schools will be running in Sheffield, Chesterfield and Congleton in the Autumn - see our learning pages for details. Chris will be using these to test out some new materials, so don't miss out on these days!



Chris Darmon was snapped at the new Dudley Museum - hopefully he won't be missing for long! (Photo: Eileen Fraser)

Yes, there IS water on Mars, and it's contained in a lake, says new research...

For several years now scientists have asserted that liquid water is present on the surface of the planet Mars, according to new research which has been published in the journal *Science*.



Show Dates

August 11 & 12 Rock, Gem 'n' Bead Show
Pavilions of Harrogate, North Yorkshire

September 8 & 9 Rock, Gem 'n' Bead Show
Chepstow Racecourse, Gwent

September 22 & 23 Rock, Gem 'n' Bead Show
Newark Showground, Nottinghamshire

All shows are indoors with refreshments & ample free parking

All shows are open: 10am - 5pm Saturday
 10am - 4pm Sunday

Admission (one entrance fee covers the whole weekend):

Kempton Park: adults £5.50, seniors £3.00

All other shows: adults £4.50, seniors £2.00

All shows: children 8-16 £1.00, under 8's free

**Rock and Gem Ltd., 27 Common Hill, Steeple Ashton,
BA14 6EE Tel: 01380 871835 • <http://www.rockngem.co.uk>**

October 27 & 28 Rock, Gem 'n' Bead Show
Newton Abbot Racecourse, Devon

November 3 & 4 Rock, Gem 'n' Bead Show
Cheltenham Racecourse, Gloucestershire

November 10 & 11 Rock, Gem 'n' Bead Show
Kempton Park Racecourse, Staines

The lake, which measures 20 km across, was found near to the planet's South Pole. Previous studies had suggested intermittent water flows, but this is the first time that a water body has been found. This is consistent with sedimentary structures that have also been found in the rocks of Mars.



The site of the latest Martian water lake is near to the planet's South Pole (Photo: Courtesy of NASA)

Scientists using Marsis, a radar instrument on board the European Space Agency's (Esa) Mars Express orbiter, made the discovery. Marsis examines the surface and immediate subsurface of the planet by sending out a signal and examining what is bounced back, in a series of differently coloured layers.

These comprise the South Polar Layered Deposit; a filo pastry-like accumulation of water ice and dust. Around 1.5 km down they spotted a light blue layer which really excited them. It was the telltale sign of real water.

"In light blue you can see where the reflections from the bottom are stronger than surface reflection. This is something that is to us the tell tale sign of the presence of water," says Prof Roberto Orosei from the Italian National Institute for Astrophysics, who led the study.

As for what this tells us about the chances that life still exists at or near the surface of Mars, scientists are a little less certain. However each new find of water increases, rather than decreases the chances that one day Mars will yield evidence for life.

'Lost Landscapes' reveals the secrets of Worcestershire's Ice Age past...

In the midst of the current heatwave, the opportunity of time spent in a modern air conditioned building was not to be missed. Thus it was that I entered the stunning building that is "The Hive" in Worcester to explore "Lost Landscapes".

"Lost Landscapes - the story of the Ice Age in Worcestershire" is a multi-faceted project that includes an exhibition that runs until the 8th September. It is split between The Hive, and, Worcester Art Gallery and Museum. Entry is free at both venue. The Hive is open every day from 8.30 to 10.00 whilst the Art Gallery and Museum is open Monday to Saturday, 10.30 to 4.30.

As you might expect, there are both geological and archaeological aspects to the project and the exhibits reflect this. As for the mammalian fossils, the county and neighbouring Shropshire have given us some spectacular finds, including large Mammoth tusks.

Some of the finds are so recent that they haven't even been fully prepared for display yet.

The Hive concentrates on the theme 'Origins and us' whilst the theme at the Art Gallery and Museum is 'Ice Age'. I was particularly taken with some of the people who have been involved in the research down the years, going right back to the pioneers. Some of these characters made great strides for us, but have been virtually forgotten.



Some of the mammal bones that are on display at the Art Gallery and Museum on Worcester.

HAMPSHIRE

MINERAL & FOSSIL SHOW

Saturday 1st September 2018
 Community Centre, Lyndhurst, Hants
 10am to 4.30pm

MINERALS, FOSSILS, GEMS, JEWELLERY & BOOKS
SALES, DISPLAYS & REFRESHMENTS

Admission £1
 (Free to Junior Rockwatch members & accompanied children under 14)

Aguanodon Footcast, Compton Bay, Isle of Wight

Show organised by
Southampton Mineral & Fossil Society
 For further information, visit our website www.sotonminfoss.org.uk
 or email show@sotonminfoss.org.uk

'Ice Age' brings out the various climatic changes there have been over the past half million years and the evidence for these changes. From the woolly mammoth the tundra to lions roaming the grasslands, it's all here! Coming closer to the present day, the exhibition brings us face to face with the Neanderthals and their world with cave shelters.

Aside from the Ice Age, The Hive features a William Smith facsimile map that you can walk on, whilst the Art Gallery and Museum has a genuine Smith map on show.

If you visit either of the exhibitions, make sure that you purchase a copy of the booklet that's yet another output of this project that's been part funded by the Heritage Lottery Fund. Finally, I was impressed by how much of this work has been carried out by volunteers from several organisations working together. It's really good to see.

For further information go to:
www.iceageworcestershire.com

EVA provides new data for the Knighton 180 project...

When BGS announced several years ago that it would no longer be publishing printed geological maps for the UK, it conveniently forgot about Sheet 180, Knighton. Now a volunteer led project is underway to 'fill the gap' and to publish 1:50 000 geological sheet 180, for Knighton.

The project is being led by former BGS staff member Dr Arthur Tingley. Arthur is working with a team of volunteers who he has trained as mappers. Meanwhile Rhian Kendall is working with a team from BGS.

One of the problems, apart from the fact that much of the area is covered by deep water Silurian muds, is a lack of exposure. As luck would have it, W S Atkins is working as principal contractor on the Elan Valley Aqueduct (EVA) project for Severn Trent Water. This is making much needed improvements to the long established scheme that transports water from mid-Wales to Birmingham.



The scale of the EVA drilling project can be readily appreciated in this image. (Photo: Courtesy of Arthur Tingley)

EVA has revealed lots of new and fresh rock sections for the Knighton team to examine. The Atkins package of 3 schemes covers 4.2 kilometres of 3 metre diameter tunnel, with a capital cost of around £70 million. These sections have presented a once in a lifetime opportunity to see fresh rock sections in several places.



Volunteers searching for graptolites in some of the Silurian shales of the Knighton area.

Lombok rocked by two large earthquakes in a week...

As this issue closed for press, we were learning of a magnitude 6.9 earthquake that struck the Indonesian island of Lombok late on the evening of August 5th. This was the second major earthquake to affect the island in a week, but the first did not lead to any loss of life. On August 6th, an operation was underway to rescue thousands of tourists who are trapped in the popular tourist resort. The death toll is around 100 and is expected to rise over the coming days.



Autumn Day Trips

The standard price is £15.00 per person, with some trips at the lower rate of £10.00 per person. All trips offer a £3.00 discount for holders of Club Class, students under 19 and groups of 5 or more people booked together.

Day trips are suitable for all levels of knowledge, unless shown otherwise. Please note however that most involve modest walks. If in doubt, please ask. Accompanied children, and dogs, are usually welcome!

Monday, September 3

The Geology of the Castleton area of Derbyshire

This is a classic area with some superb geology. Even if you have been before, don't let that stand in the way of coming on this day as it's being led by Eileen Fraser so it will have her slant on things, rather than Chris's! Elements of White Peak and Dark Peak as we walk in the Winnatts Pass and Mam Tor area.

*Meeting: Beside the old Mam Tor road, beyond the turning for Winnatts Pass (roadside meter parking) at 10.30
Standard prices apply.*

Saturday, September 15

Geology & geomorphology of Holderness

The coastline of Holderness is being rapidly eroded, at a rate of around 1 metre per year. It is composed of glacial till from the last glaciation. We'll be able to examine some of the cliff sections and also make a detailed study of some of the beach material. You'll be amazed at the pebbles we'll see and the places they have come from. We may be able to access Spurn Point, but this is far from certain.

*Meeting: Car park on Morrow Avenue at Hornsea at 10.30
Standard prices apply.*

Monday, September 17

The Chalk of Flamborough Head

The chalk cliffs of Flamborough Head are legendary. They have been the site of many shipwrecks and also smuggling down the centuries. But for geologists, they show exposures of hard, flinty chalk, typical of the Yorkshire outcrops. There are also marl bands and some very important disturbances that become much larger offshore. We'll also visit a couple of inland chalk outcrops to complete the day.

*Meeting: Flamborough North Landing car park (fee payable) at 10.30
Standard prices apply.*



Sunday, October 14

Geology of Hele Bay & Ilfracombe

Join us as we begin to examine the Devonian slates of this part of the county. Picturesque Hele Bay is in the middle of the Ilfracombe Slates and is bordered to the east by the older Hangman Sandstone's and to the west by the younger Morte Slates. The eastern border runs along the eastern side of the valley of Combe Martin, the western border runs parallel from the coast at Lee Bay. You'll be able to see some interesting structures as we examine these rocks in detail and learn more about the setting of the seaside town.

*Meeting: Car park due south of the beach by toilets (fee payable) at 10.00
Standard prices apply.*

Monday, October 15

Valley of the Rocks, Lynton

The Valley of the Rocks is a beautiful place that is the stuff of legend. It's also a place with a story to tell of changing sea levels and of ice. Come and see the Devonian strata, some of it marine, which has been mildly metamorphosed and folded. This is one of the most beautiful stretches of coastline in the Southwest and is not to be missed.

Meeting: National Park Car Park behind toilets in the Valley of the Rocks (fee payable) at 10.30. Standard prices apply.

Saturday, October 27

The North Norfolk coast

Come and see some of England's youngest strata. These early Quaternary sediments show us evidence for climatic changes that are both stark and dramatic. There are also huge rafts of chalk left high on the cliff tops, but how have they got there?

The exact location is not yet certain as we are awaiting confirmation of tides. See September's Down to Earth extra for final details.

Autumn face-to-face classes

We regret that there will not be any face-to-face classes this Autumn due to the non-availability of Chris Darmon. We expect to resume these classes in the Sheffield and Chesterfield areas in the new year. Sadly, we have been unable to find any suitable meeting venues in Manchester at prices that we can afford.

Autumn Day Schools

We are pleased to announce a new programme of day schools this Autumn. These courses normally run from 10.30 to 4.00 and always involve lots of hands on practical work. They are suitable for people with a range of geological knowledge, including beginners. A discount of £5.00 per person is available for holders of Club Ckass and groups of 6 or more people.

Thursday, October 4

The Commercial Chapeltown, Sheffield

"Geological Jigsaws" - piece the evidence together and make sense of an imaginary geological map. Uses specimens and photographs in a fun way for everyone to enjoy. £35.00 including lunch buffet.



Don't worry, we don't bite!

All our educational classes and courses are friendly, informal and open to all.

Come and join us!

Thursday, October 11

Eyre Chapel, Chesterfield

“Geological Jigsaws” - piece the evidence together and make sense of an imaginary geological map. Uses specimens and photographs in a fun way for everyone to enjoy. **£35.00 including lunch buffet.**

Friday, November 9

Chappell Centre, Congleton, Cheshire

“All that glitters is not gold” is a lively look at minerals through the medium of some nice specimens and photographs. Suitable for beginners as well as experienced people. **£35.00 including lunch.**

Wednesday, November 14

Lea Valley YHA, Cheshunt, Hertfordshire

“Geological Jigsaws” - piece the evidence together and make sense of an imaginary geological map. Uses specimens and photographs in a fun way for everyone to enjoy. **£35.00 including lunch buffet.**

Friday, November 24

The Bridge Centre, Monmouth, Gwent

“Geological Maps and how to read them” - a hands-on practical day that will take you on a journey that will explain what geological maps show, and how you can get the most out of them. This is a day school that we have successfully rolled out in many places, but never before in Wales! **£35.00 including lunch buffet.**

Friday, December 1

Commercial Union building in central Newcastle upon Tyne

“Geological Jigsaws” - piece the evidence together and make sense of an imaginary geological map. Uses specimens and photographs in a fun way for everyone to enjoy. **£25.00 including light refreshments.**

Autumn distance learning courses

For this Autumn we had hoped to run one brand new course entitled “Around the world in 20 great geological stories”, however this has been postponed until the January 2019, as Chris Darmon is out of action. We will be offering the following courses in the Autumn “How the Earth works” and “British Isles geology” as supported self study course on Moodle, our easy to access learning platform.

“How the Earth works” is a 10-week course that examines the fundamental workings of our planet. What it is made of, what volcanoes and volcanic rocks tell us about the composition of the continents and ocean floors. Above all, it takes you through the various discoveries that eventually led to the formulation of plate tectonics theory and the impact that has had on our understanding. **Cost: £75.00 by Moodle/Email, or £100.00 by post.**

“The geology of the British Isles” is a 13-week course that takes you through the geological history of the British Isles in a logical and structured way from the earliest rocks of the Archaean to the last Ice Age into the modern era. It's a story that is full of unexpected turns that take fragments of continent and ocean floor and weld them to make what we call the British Isles. By the end of this courses you will appreciate why our landscape is so interesting and complex! **Cost: £75.00 by Moodle/Email, or £100.00 by post.**

Finally, for those of you looking for a beginners' course in geology, we're delighted to be able to inform you that our popular ‘Steps towards the rock face’ course is now available ‘on demand’, at any time of the year. It allows you to access the materials at any time for a period of 6 months on our Moodle site, or to receive them in

printed form. See below for more details.

“Steps towards the rock face” - our popular course for those new to geology and the Earth sciences. It covers a wide spectrum of basic materials on rocks, minerals and fossils and much more besides. This course has been specifically designed with adult learners in mind. It does not require you to submit homework and you can do it electronically or by post to suit your requirements. **Cost: £75.00 by Moodle/Email, or £100.00 by post.**

*For further information or to enrol, go to: www.geosupplies.co.uk
Or for more information email: downtoearth@geosupplies.co.uk*

Residential Trips 2019

Bookings are now being taken...

We are now taking bookings for all of the trips running in the first half of 2019. Please remember that if you are looking for a single room, these are always limited so early booking is strongly advised. See the list below and make your decision!

El Hierro & Tenerife, February 23 - March 2 *

Norway, April 5-14 - enquire about late vacancies

Isle of Jersey, April 20-27

Oban & Colonsay, May 11-19 *

The Far North of Scotland, May 31 - June 8

Eastern Lakes & Howgill Fells, June 16-21

Southwest Scotland, June 28 - July 6

*** Indicates that this trip is close to being full.**



**Become a Club Class
or Club Class Duo
member for 2018**

**CLUB
CLASS**

We are once again offering ‘Club Class’ for 2018. Don’t forget you can choose between a ‘solo’ and a ‘duo’, which allows a second person discounted rates on day field trips and day schools, provided the named member also attends. The discount on Day Schools has also increased to £5.00 per person.

- Join any geological day trip in 2018 and save £3.00 on standard prices
- Save £5.00 on the advertised price of any day school
- Take out any **Down to Earth** subscription renewal or new subscription and save £2.00 on the advertised price
- Enrol for any **Down to Earth** distance learning course in 2018 and save £5.00 on the full advertised price.
- Save 10% on books and maps from BGS when ordered from Geo Supplies - only available to callers or telephone orders.
- Additional offers that we may make available from time to time.

Terms & Conditions

- The benefits are only available to the named ‘Club Class’ member.
- Holders of ‘duo’ can claim discount rates for a second person on day schools or day trips.
- It is the ‘Club Class’ member’s responsibility to draw to our attention that fact that you are entitled to any discounts at the time of ordering.
- Club Class cannot be used in conjunction with any other offer to obtain multiple discounts on a product or service and neither can it be used retrospectively for something already booked, or purchased.

To enrol for ‘Club Class’ for just £10.00 or Club Class Duo for £15.00, go to: www.geosupplies.co.uk or ring us on: 0114 245 5746

**To book go to: www.geosupplies.co.uk
or ring us on 0114 245 5746**



Autumn 2018 field trip SALE now on!

**There's never been a better
time to come and join us!**

*Fabulous beach and slipped cliffs at
Overstrand in North Norfolk*

The bad news is that because of illness and accidents, a few of our participants are unable to make it to trips that they have booked on.

The good news is that we want to make their places available, at discounted prices, to anyone who wants to come along. There's even a couple of single rooms!

We are also keen to attract new people who have never been on one of our trips so are offering a special £50.00 discount per person on double/twin rooms on selected 2018 trips. So if you qualify - contact us NOW!

You can contact us as follows:

Tel: 0114 2455746

Email: downtoearth@geosupplies.co.uk

Our Autumn 2018 field trip programme

Ask us about availability NOW...

- Isle of Wight - September 1-8
- The Yorkshire Coast - September 14-18
- Isle of Man - September 22-29
- Ilfracombe, North Devon - October 12-17
- North Norfolk Coast - October 24-28

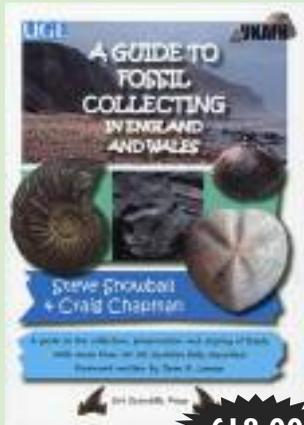
Go the website at: www.geosupplies.co.uk to see a brochure and then contact us for a booking form

Email: downtoearth@geosupplies.co.uk



Featured books August - October

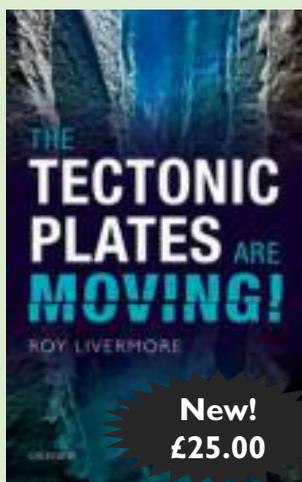
In each issue we are pleased to be able to introduce you to a range of featured books. Where they are being offered at reduced prices, these will be current to the end of the month shown above, provided that stocks are available. Please note, all prices include UK postage.



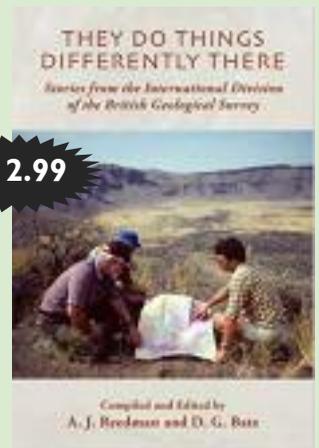
£18.00



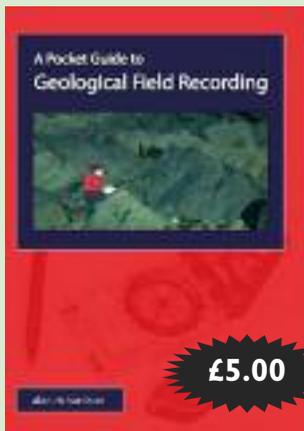
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£20.00**



**New!
£25.00**



£12.99

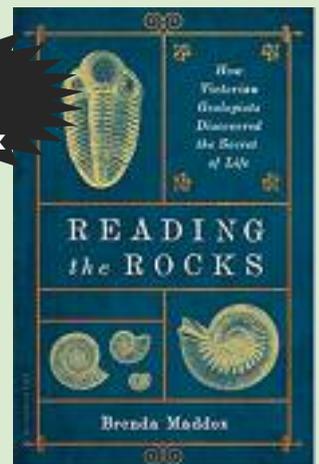


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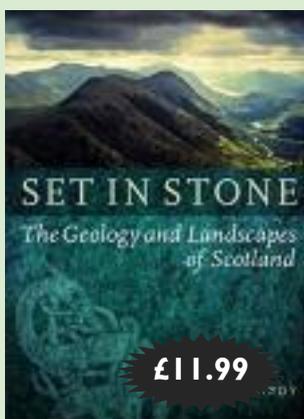


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now £12.00!**

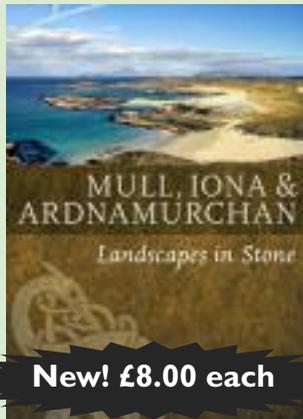
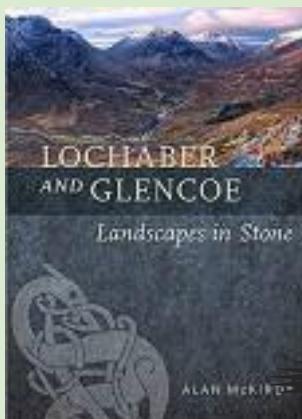
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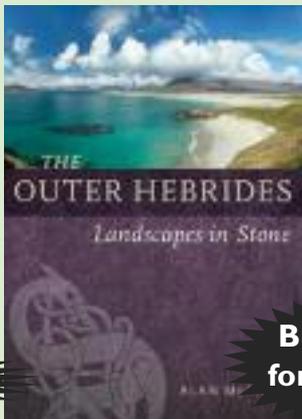
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