



Our open days always provide plenty of fun, even for our President and the Mayor!



Introduction

*by President and Chair of
Entomology, Mark Spencer*

Good grief, it is already winter (and starting to feel like it!) our AGM is imminent, then it's Christmas!

We have had an amazing, busy 2017 at the BNSS. Our last Open Weekend was very popular and successful, with lots of visitors, excellent comments and we made some good money too!

I thank all those involved: volunteers; trustees; chairs of section; and so many helpers – I hope they all enjoyed it as much as the visitors and I did.

I also wish to thank everyone involved in all the activities and the day-to-day running of our Society and Museum, I wish I could name you individually, along with your achievements, but we have limited space and I would live in dread that I might have forgotten someone, so **"THANK YOU ALL!"**

I hope that we can regularly thank

each other with a pat on the back as often as we can, as everyone deserves this. If anyone is in doubt about how much the BNSS is appreciated, I suggest they look at the comments in our visitors book!

We are still looking for a few keen members to help run the Ornithology, Botany and General sections, if anyone can spare a little of their time? We also need someone to chair our Assembly meetings quite urgently!

To all members and especially new members: if you ever want a chat with me as President or Chair of Entomology or just as a fellow member, please do so either by phone, e-mail, or directly when at the BNSS, (most Tuesdays 10am – 4pm) or at lectures and the Xmas members lunch!

I hope to see many of you in the coming weeks, especially at the AGM, if not I will now wish you all a very Merry Christmas and a super New Year! Here's to more wildlife and socialising at the BNSS in 2018... enjoy!

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Generous Co-op customers give our hearing loop a boost



members (all local residents) who donated 1% of their their weekly shop and nominated the Bournemouth Natural Science Society & Museum as the most worthy recipients.

The cash was raised specifically so that we might boost our hearing loop facility so that members and visitors who are hard-of-hearing might more easily follow our lecturers.

A 'very well done' to Kate, (a regular visitor to the small group of BNSS volunteers who meet monthly to 'brain-storm' new ideas to raise cash for our Society and Museum) because she came up with the idea of registering us with the Co-op; such a simple yet marvellously effective idea!

If you have a money-raising idea, be sure to let Kate Seaman, Anna Cuccia, Carol Neal, Rod Cooper or Chris Davison know. Even better, come along and join us for a coffee and a chat on a regular basis. Who knows what other ideas we might come up with?

Charitable donation – Chris Davison reports

The Local Community Fund is the Co-op's way of giving back to the community and has so far raised in excess of £20 million for local charitable causes.

On Saturday 25th November, our president Mark Spencer along with curator Ray Chapman and volunteer fundraiser Kate Seaman, dropped by the Co-op store in Westbourne to pick up a cheque for a whopping great **£2,907.87**.

Our heartfelt thanks go out to the Co-op and all their caring

Two of today's 'red-hot' green issues discussed at the BNSS



Mary Thornton (left) and guest speaker Deborah Maw pose with 'Plastic Man' – a children's craft idea at the BNSS open weekend, which was led by artist Alison Summers Bell.

Deborah gave a talk as one of the all female eXXpedition crew trawling for marine plastics which, in the form of microfibres and microbeads, turn up in plankton samples, get concentrated through the food web and end up in human bodies. Once there, we're told, they become attached to hormones and begin to change behaviour.

It is thought that 90% of sea birds have ingested some sort of plastic and there are many examples of turtles and whales mistaking plastic for food. This is a hot topic: so much so after a campaign last year by the Daily Mail, UK ministers pledged to outlaw toxic microbeads which are poisoning our seas.

Deborah kindly came back with this update for our members...

The eXXpedition Round Britain journey took 28 days, and started and finished in Sutton Harbour, Plymouth. By the end of the journey, the crew had travelled 2,035 nautical miles and collected nearly 100 scientific samples for future analysis. These samples and data will be analysed by specialists across the UK, in Germany and in the USA and will help provide a clearer image of plastic and toxic pollution in UK waters. A vital part of the eXXpedition journey was the outreach and interaction

with local communities and the wider UK population.

'We all have a part to play in reducing plastic waste but manufacturers and government need to take the lead. It's a global problem which needs a global solution. The *Banish the Bags* campaign led to a huge reduction in single-use plastic bags at supermarkets, and now we are calling for a deposit scheme on plastic bottles.'

In Plymouth, at the start and end of the voyage, we organised free outreach events to share the challenges of ocean plastic and toxics with the wider community, and galvanise support for the cause. We also attracted attention from local and national media, including Sky News, and the BBC.

The events included a fully-booked screening of our film 'A Plastic Ocean' at Plymouth Arts Centre; boat tours of Sea Dragon in Sutton Harbour; beach cleans; shore lab and ecology workshops in partnership with the Children's University at the University of Plymouth's Marine Centre.

To discover more visit Youtube and search for:

[A Plastic Voyage: A Sky documentary](#)



Visitors pledge their support

This is the amount of tons of CO₂ offered to be saved by attendees of a Sustainability Workshop held during Arts Festival week. Angela Fendley led people through a series of small changes individuals can make to their own personal lifestyle. These included: walking or bicycling rather than using a car; eating vegetables not meat; wearing another jumper and turning down the thermostat; eating locally sourced foods not those which have been air freighted; and choosing to vacation in UK rather than flying round the world.

Geology Field Trips 2017

by Ray Chapman – Chair of Geology

13th April: Kimmeridge

The morning was spent in the Steve Etches Collection, a new museum built with a Heritage Lottery Grant and opened in November 2016.



Steve had been warned that we were coming and personally conducted our group of fifteen members around the single room of the display containing some 10% of his total collection, the rest being in store awaiting display.



The fossils are all from the Kimmeridge Clay, the majority from Kimmeridge itself. They are displayed in environmentally controlled panels around the walls with the ceiling having an animated display of the various creatures in their live habitat.

There were plesiosaurs, pliosaurs, ichthyosaurs among the reptiles amazingly prepared by Steve showing fine detail even down to the stomach contents of an ichthyosaur. Ammonites of various species, gender and size are shown including the first known ammonite eggs, very small groups of round objects. There are belemnites with the ink sac preserved. There are even fossil barnacles which would have pleased Charles Darwin who lamented in the Origin of Species that there

appeared to be no barnacles prior to the Tertiary.

After a fascinating visit and thanking Steve for his assistance, we headed for the Bay where we almost followed a field trip led by Steve Etches!



We started at the west side by studying the dolomitised limestones, the beds display large polygonal ridges caused by magnesium crystal growth during diagenesis when buried, there are also many faults through the beds. We continued eastwards round the Bay studying the many large pyritised ammonites in the flat limestone and shale beds. We studied the faults that occur in many places in the cliffs avoiding getting too close due to the overhanging rocks. Past the waterfall and round the corner to stand below the Clavell Tower brought our trip to an end.

11th May: Burton Bradstock



This trip was to Burton Cliffs west of Hive Beach. First we looked at a small block of a white limestone which has mainly now been covered up but the block contained many nautiloids

eroded through in various sections.

Moving on we went to the cliffs which are a formation of fine quartz sand bands with hard carbonate cemented sands at intervals, this is the Bridport Sands. They are Jurassic Toarcian age between 190 and 180 My old. They were deposited in delta of a river prograding from the north and can be seen at Yeovil and Ham Hill. The hard bands were formed during lithification when the supply of calcium carbonate was high.

Studying the cliffs has to be carried out carefully as there can be rock falls and indeed we saw many cracks in the cliffs which could easily fall. Above the Bridport Sands is a bed of the Inferior Oolite formed in a shallow lime-rich warm sea by the precipitation of calcium carbonate onto small particles of grit or shell material creating small egg-like structures or ooliths (Inferior because it is below the Great Oolite). The inferior Oolite is of the Bajocian age some 182 to 170 My old, this bed unlike the Bridport Sands is full of fossils, ammonites of several species, belemnites, brachiopods, bivalves and the occasional sponge. We were able to examine some of these in the fallen blocks on the foreshore but as the rock is very hard they are very difficult to remove whole.



22nd June: Wyth Farm & Purbeck Mineral and Mining Museum



14 members assembled at Norden Park and Ride where we were collected by coach for our tour of the Wyth Farm Oil Facility. First stop was the gathering station where oil from all of the many wells was collected. There the saline water that came with the oil is separated from the crude oil as is the butane gas (LPG). The oil is sent by pipeline to Southampton and, surprisingly, although it goes to the Fawley refinery it continues to the Hamble Oil Terminal where it is stored before being exported for commercial reasons. The saline water is pumped back into the wells to maintain the pressure below. The LPG is put into tankers and sold directly. We were shown samples of the crude oil, apparently a high quality product, and also a core of the Sherwood Sandstone, a Triassic fluvial sandstone which is the reservoir rock capped by the impermeable Mercia Mudstone at 1600 m depth. There are two other reservoir rocks containing less oil, the Frome Formation 800m and the Bridport Sands 900m. It was surprising how little space there was in the dense Sherwood Sandstone to contain oil.



We next looked at two areas with 'Nodding Donkeys' used to pump the oil, pumps are also used within the wells to bring the oil to the surface. All the well bays have containment wall and pits to contain any leaks although this is an extremely rare occurrence.



We completed the tour by going to the Goathorn peninsula to see the drill rig. This rig drills the wells that curve along the surface of the reservoir rock, the longest reaching over 11kms. A new well is planned to reach the extremity of the reservoir which will be 14kms when completed.

Wyth farm has won environmental awards and is justifiably proud of its record. The only part of the facility that can be seen is the drilling rig everything else is screened by trees, the roads are winding to prevent straight line viewing and the noise is kept to a minimum. The lamp standards have custom made light screens to prevent light pollution. As we drove around the beauty of the landscape with wet and dry heath was a delight to see, the result of conservation activity taken by the Perenco staff.



After lunch we went to the Purbeck Mineral and Mining Museum just by the Norden car park. This used to be part of the Norden Clay Mine and equipment and machinery was on display, much of it outside. In the main room which was once the office samples of clay and the tools used to cut it were displayed as well as some of the equipment used to prop the mine shafts. We finally found out what the bell that kept ringing was, it was the old time bell which could be rung by visitors. There was a small room with equipment for testing the clay and several books showing the locomotives that were used to move the clay around the mine and to the main line railway

for transportation.



Outside were examples of the transport network and the heavy machinery used to keep the water out of the mine. A fascinating little museum.

20th July: Barton on Sea and Highcliffe



Starting at Barton on Sea by the Cliff House Hotel we walked along the cliff top to the steps and then walked west to look at the land slip which is currently under repair. Too early to tell whether this time it will be successful, the area not being worked on is still a shambles but in places shows signs of stabilising.

We then went down to the undercliff path and walked west towards Highcliffe, the path disappeared in places and we were walking on landslip which was wet in places. We studied the Carboniferous Limestone sea defences looking at the corals, bryozoans and looking in vain for trilobites. We eventually went on to the beach and walked along collecting fossils as we went. Unfortunately slipping over the cliff surface restricted collection but a fair collection of bivalves, gastropods and a few shark teeth were found.

Our very last geology field trip of 2017 was to Charmouth. We'll try to squeeze that one into our Spring 2018 newsletter!

Did YOU have a 'spooktacular' halloween? Our Young Explorers certainly did!

An update from our Young Explorers

Young Explorers had a creepy time this Halloween half-term with a spider special. We learnt lots of interesting facts about arachnids, watched some short film clips and took part in an interactive presentation. Who knew only 50% of spiders spin webs? The children were also able to make a jointed spider and take it home. They got to see a variety of garden spiders which Mark had collected to show them and of course his wonderful tarantula Rose

also took a lead role. Thanks to Anna Cuccia for organising and running the session and to Mark Spencer for providing his expertise.

Our open day was a roaring success and plenty of fun was had in the hall in the craft zone. Children (and adults!) made some fantastic fish which they added to our giant seascape. We even managed to get the mayor to have a go (front cover). Thank you so much to all the families who participated and helped us raise funds for the museum.



Could YOU be a Section Head?

The opportunity to take stunning shots like these will soon disappear if we don't find somebody willing to take over leading our fabulous and well attended mycology walks. At the time of going to press we need Section Heads for Botany; Geography; General and Ornithology. If someone has already stepped forward, they'd certainly love to have a 'second'. We also need someone familiar with the workings of the Society to step forward to Chair our Assemblies...

*Mycology field trip: Marlborough Deepes. Picture by Gerry Duggan
September 2017*



*Mycology field trip, King's Copse Enclosure, Beaulieu...
Pictures by Gerry Duggan - September 2017*



It costs nothing to pass it on! Please help the BNSS by forwarding this newsletter to someone who might be interested in joining our society, guided walks or visiting our fabulous museum this winter!

To automatically receive updates on BNSS events and news:

1. When next in Facebook, click on "Find Friends"



2. Type into the box "Bournemouth Natural Science Society" (not BNSS)

3. Click on "Follow"

The BNSS Facebook posts tend to be brief, and typically number 2 or 3 times a week. If, at anytime, you change your mind, you can stop BNSS updates going to your Facebook by clicking on "Unfollow". If in doubt, ask a 12 year old!

"I'd like to support the BNSS!"

If you are visiting the museum and you enjoyed your visit, please leave a donation in one of our **donation boxes**. You can also **text** your donation to us by sending the message BNSS30 £5 to 70070. Alternatively you can donate via our **website** by using the BT MyDonate button found in the menu panel on the right of the screen. **Thank you!**



Take a break from your usual Christmas break!

We all sing about 'two turtle doves', but why have you never seen one? Why do snowflakes have six points? Is there more than one species of reindeer? Why does water expand when it freezes? And why, oh why, do we settle for the same old boring routine every Christmas?

Make the most of your winter break: grab your wall calendar or diary right now and reserve some time for a really special museum visit. Bring your family. Bring your friends. Bring your visitors to Bournemouth and please give generously!

**OPEN
DAY
TIMES**

Wednesday 20th December: 10am – 4pm

Friday 22nd December: 10am – 4pm

Wednesday 27th December: 10am – 4pm

Friday 29th December: 10am – 4pm

Light refreshments will be available!



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