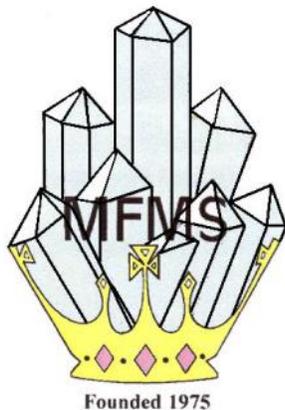


# Occasional Erratics



Newsletter of the  
**MEDWAY FOSSIL AND MINERAL SOCIETY**



[www.mfms.org.uk](http://www.mfms.org.uk)

No. 09. Dec 2017

The editor of this edition of the MFMS Newsletter was Nick Baker

**Cover picture**

Members of the Medway Fossil and Mineral Society on a building stone walk in Maidstone — July 1017

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### Editor's notes.

Well, as you will know, unless you were not at that meeting, or any other meetings, and do not have a computer—yours truly volunteered to be Treasurer, following the retirement of Dave Talbot. Dave was occupied with the job across 20 years or more, which was so smooth that one could be in danger of not noticing, which is as it should be. Now, not many people may have noticed the strange synchronicity of the this with the last AGM. It was October 25th. Now that is St Crispin's Day... Shakespeare coming up. It's Henry V, just before Agincourt on October 25th 1415.

*"This day is called the Feast of Crispian. He who outlives this day and comes safe home will stand a' tiptoe when this day is named....."*

*Then shall our names, familiar in his mouth as household words, Harry the King, Bedford and Exeter, Warwick and Talbot.....!"*

For me, at this moment (Nov 18th) I am in the middle, with other folks, of trying to get the bank to recognise our/my status as signatories for the accounts. The last time was so long ago that it's unlikely that anyone will remember what happened, and the rules will probably have changed anyway. You walk into the bank and you think everything is going to be simple, which it ain't. There seems to be nothing written down and you are deluged with explanations, which I, at least, will never remember. There is always the strange exception—you know the one—was it an even date, was the moon in the fourth quarter, was there a southerly wind, and were two red, white and blue cats fighting in the street half an hour before? - Surly, M'lud.. Does not M'Learned Friend mean *three* cats, one red, one white, and one blue?

SAVE IT!

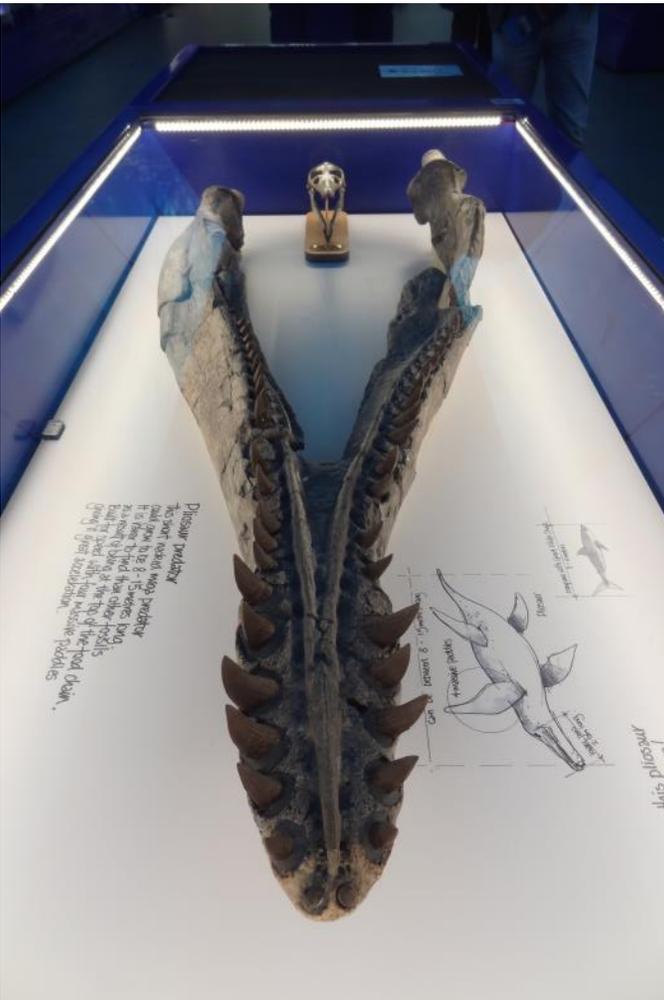
Actually, I wanted to mention, Richard Dawkins. Now, if you were marketing this man as a product, the tin or packet would say—this product is guaranteed never to leave you sitting on the fence. As an evolutionist, I agree with him, but I disagree with his theology I am one of those people that he says do not exist. However, he was on radio and was asked about BREXIT. His answer was—*we should never have been asked!* The interview was about informative answers v gut reactions. (I think it was a book launch) His stance was that the Brexit result was largely based on gut reactions. We simply did not have enough information—in fact the matter was too complex for just a yes or no answer, which was probably why the result was so close—and the result was for ever. He argued that a democratic process had not taken place—perhaps the required result should have been 67-33. Take one example—EUATOM. Does the funding of the JET process, at Culham, stop in March 2019? And who will look after the security surrounding that 100 tonnes of plutonium stored at Sellafield. At the moment that is covered by EUATOM—but after March 2019, who knows? - I hope somebody does.

Now, it is the time of year for renewal of membership of the society. Subscription rates are the same as last year. First, I must remind everybody of some definitions—recent events show a confusion. This lies in the term 'family'. All members of such have to be resident at the same address. That is same, as in same. Now, you might be a LAT—Living Apart Together (But you share a bank account). Other definitions could be available—for all instances beyond reading this. Senior, just means over (State) pension age on January 1st of the subscription year. So, the rates are.

Adult single	£26	Senior single	£19.50
Adult family	£39	Senior family	£29.25
Remote single	£10.40	Remote family	£15.60



A very good photo of some of us on a building stone walk at our last meeting in July—Maidstone Bridge, and no doubt there mainly on account of those feldspar crystals.



## THE ETCHES MUSEUM

### Gary Woodall

Those of you who used to go to the GA Reunion back in the 1990's may remember the spectacular jaw of a Pliosaur that was usually on display. This had been collected by amateur fossil collector Steve Etches from Kimmeridge in Dorset, it was a truly fantastic specimen. So when the Geologists Association ran a fieldtrip to Dorset that included a visit to Steve Etches house to view his collection, I jumped at the chance to attend. The fossils were housed in an extended garage and was a true small museum. The display was fantastic and included Ichthyosaurs, large fish as well as ammonites and other invertebrates. Pride of place went, of course, to the Pliosaur jaw which was around 4 feet long. The collection had been built up over many decades from the Kimmeridge area where Steve had special permission to collect from.

The collection is now on public display at the new Etches Museum in Kimmeridge which opened last year. The museum was constructed by a new trust supported by the Heritage Lottery Fund and the generous donation of land from a local estate. Steve also donated his entire collection to the trust. The building additionally comprises a field centre for schools and fossil preparation workshops. But the main reason to visit is the museum which is housed in a state-of-the-art room upstairs. This room looks like something out of a science fiction film with huge screens in the roof permanently

showing a reconstruction of the Jurassic seas. One minute it is full of swimming ammonites then a massive Pliosaur goes by. Along the sloping walls and down the centre all the fossils are on display. The museum is easy to find in the village of Kimmeridge but be warned the road to it is rather small.

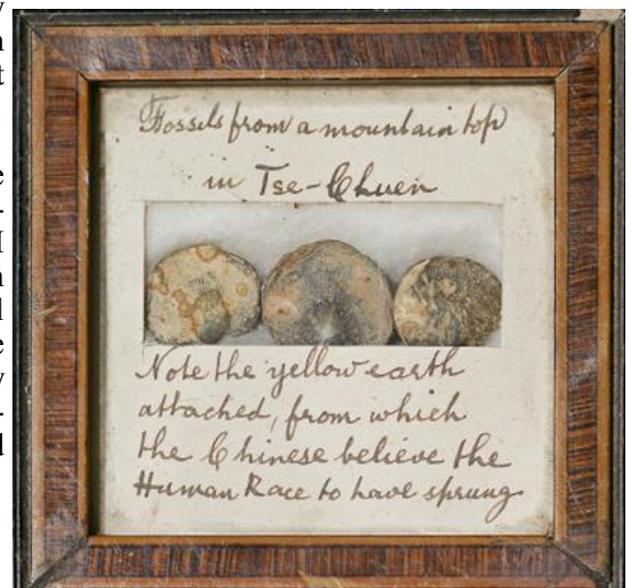


## Some thoughts on Evolution

Tony Mitchell

Many years ago, I was phoned by the agricultural college at Wye. They wanted to donate their fossil collection to a worth-while cause and would Medway Lapidary and Mineral Society [as it was then] be interested? I drove there and filled the car up with boxes of fossils and rocks, many with no provenance or other information, and started sorting them at home. Most went to club members but I retained some that were of particular interest to me. Illustrated is one of them.

It is rather sweeping to say, if you read the label, that 'the Chinese' believe that the yellow mud still on some of the brachiopods is the dust from which the Chinese people were created. I think that certainly one tribe did. This year we had a holiday in Southern China starting in Tibet and visiting several of the local tribes' spring festivals. The Eruba festival was held high in the mountains, [the steep climb starting at 11000 feet was particularly puff-making] at a spring that supplied calcium carbonate rich water to some brilliant white terraces. This tribe of animists believed that they were created here, hence the festival.



Practically all religions, and there must be hundreds if not thousands of them, if you include ancient ones like in Egypt, Greece and Norway, have their own origin-of-life stories. Why so many?

‘Mummy, Mummy, where did I come from?’ is one of the earliest profound question asked by a child. We find it difficult to answer as, ‘we evolved by natural selection from non-human ancestors’ is not particularly helpful an answer, even if it is, we believe, correct. Recourse to gooseberry bushes, Storks and the like is generally satisfactory. Perhaps to very early Man, [I use Man to include woman child and even foreigner] with the beginnings of a questioning mind, a supernatural answer is most satisfactory, as it does answer every question of that sort. Living as they probably did in distinct tribes, each tribe would have evolved a slightly different answer.

There, I used the word evolved. Even the evolution story does not have a completely satisfactory explanation for the original ‘spark of life’ though from there on it falls neatly into place. One factor in evolution that seems not to be stressed is that evolution does not invent new structures or chemicals. It works by small modifications of existing ones. And those modifications are at random. We tend to think in human terms and of our ‘civilisation’ only. We can see that humans come in all shapes, sizes, and abilities, and we bend over backwards to ensure that every-one has an equal chance of a happy and fulfilling life. This colours our understanding of general evolution when thinking of survival of the fittest.

Probably another mistake is using that old phrase, ‘survival of the fittest’ as that is not what matters. It is ‘reproduction of the survivors’ that matters. In a life of fourscore years and ten, we can get through 4 generations. That is not enough to see evolution at work in us, so many people cannot understand it. They do, however, take note of MRSA, AIDS and drug resistant Malaria. In our 4 generations, these organisms can notch up several hundred if not thousand generations.

When we have a stomach upset caused by a bacterial infection, we may be given an antibiotic. If you look at the causative organism, all the bacteria look identical. That is because they are identical, on the outside. Inside is a different matter. They are full of chemicals, mostly built following the instructions set out in their DNA. These instructions not only tell the bacterium how to make the chemical but also where, when and how much. They may decide when and how much by detecting other chemicals in their environment. An antibiotic may be such an outside influence. A bacterium that, because of an otherwise useless instruction change happens to make it more difficult for the antibiotic to enter may survive longer than the rest. If it then produces offspring, they too may have some resistance. With a life cycle of only half an hour, a fully-resistant bacteria may have evolved. For many years it didn’t, then one did.

A very important point is that for the thousands of years that Man had suffered from bacterial stomach trouble, Super-Bugs did not exist as there was no stimulus for them to evolve. It is only when there is a change in conditions that evolution takes place. A change can be a new predator, food supply, climate change or similar. Once an organism is well adapted to its environment, it remains unchanged as nothing needs doing. If it aint broke don’t fix it.

Another equally important point is that a fossil bacterium, or fossil Man may look identical to a modern bacterium or Man, even though a huge amount of chemical evolution has occurred inside. Lactose intolerance and skin colour are human examples not visible on bones.

Lastly, animals and plants never try to evolve. They are born either with or without the characteristics needed to allow them to live long enough to reproduce. Some will make it and some more capable, will have an accident and not survive, but on average, the better characteristics for life in the prevailing conditions will reproduce and pass on their advantage.

Ruskin pointed out that even an old person would say that a stream well known to him as a youth had not changed in depth or position, so it was reasonable to conclude that geology is unchanged. He did not know, and therefore understand, the huge amount of time available for geology to happen. He certainly was not aware of the now understood fact that the continents have drifted, and continue to drift, over the surface of the earth. In Cambrian times, the land we now call England was close to the Antarctic, in the Carboniferous near the equator and will eventually be somewhere near the North Pole.

Organisms able to survive at latitudes that were similar to present-day South Africa, as they moved north on a drifting landmass towards desert regions either became extinct or became so structurally different from their ancestors, that we call their fossils by a different name. Because of the paucity of fossils, except in a few special places, such as Sheppey, animals may evolve somewhere without leaving a trace, until suddenly appearing in a new area when forced to move. From the evidence of writers like Gilbert White we can be certain that there were none of the, now common Collared Doves in England in his time. If they had been unrecorded in the rest of Europe we could be forgiven if we assumed they had been suddenly created here.

There is a lot more, especially in genetics, to talk about, but that is enough for present.

## **PURBECK DINOSAUR TRACKS**

**Gary Woodall**

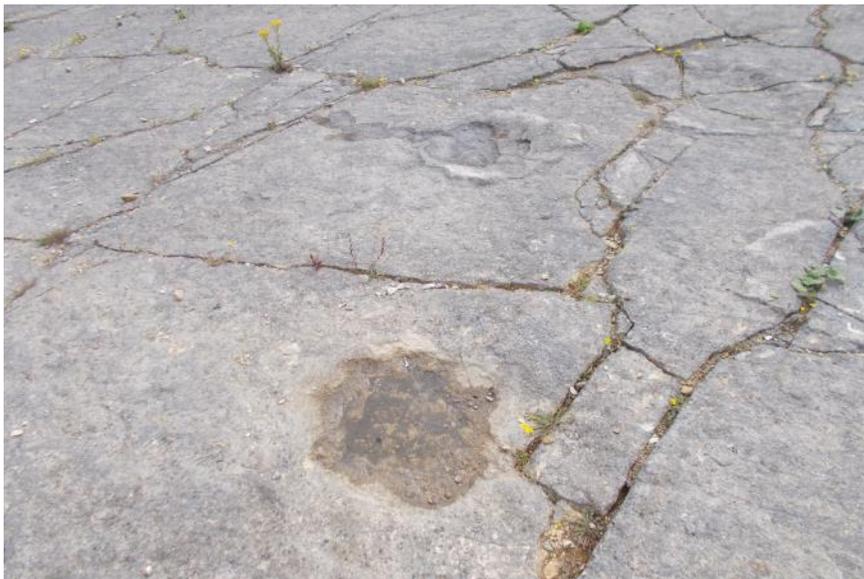


Many of you know that I like Dinosaurs and Dinosaur footprints in particular. This is partly as they are easier to find than bones, though collecting them can be difficult. When several prints are preserved together in a trackway that they can really show what the Dinosaurs got up to. Evidence from trackways can show that they lived in herds and the speed they walked calculated. I have been lucky enough to see a number of preserved trackways in America but similar opportunities in Britain are few and far between.

When the sea has cleared away the shingle sometimes short trackways can be seen in the Hastings and Bexhill area, though being there at the right time is almost impossible. Many years ago several spectacular trackways were discovered in a quarry at Ardley in Oxfordshire, there was talk of leaving them on display but in the end they were covered by landfill in order to 'preserve them for the future'!

The only part of Britain where trackways are regularly found is on the Isle of Purbeck but even then they only last for a short time until quarrying destroys them. Sometimes they are lifted to be put on display. The Natural History Museum in did have a short Megalosaurus trackway in it's garden but I am not sure if it is still there. Back in the early 90's the first Sauropod trackways discovered in Britain were found at Sunnydown farm and moved to a field, I am not sure about their fate.

So when I was watching a TV program about the National Trust recently I was interested to see that they have preserved a dinosaur trackway in situ at Keates quarry on the Isle of Purbeck. The exact location took a bit of finding through the internet and even more research to find out how to get to them, as they are not near a road, but eventually I had directions. So when Judy and I went on a mini break to Poole I dragged her to see the tracks. We followed the directions and found the car park, just outside Langton Matravers. We then walked about half mile down the unmade road until we met the Priests way, an ancient, long-distance, footpath. Another half mile later we found the signpost to the trackway site which was a short distance across a field.



The trackway site is small but over 70 prints are preserved in several trackways, the actual prints are quite easy to spot when you realise that they are of Sauropods so are not the 'normal' tridactyl sort but rather oval depressions. There is a good information board put up by the National Trust. Obviously collecting is prohibited but it is fantastic to see, what I believe to be, the only dinosaur trackway site on display in Britain. Full marks to the National Trust for protecting the site.

## **Treasurer's Resignation Statement 2017**

### **Dave Talbot**

Since deciding recently that I wished to resign from my present position as treasurer I have been asked how long had I been doing it? At the time I wasn't sure. I know I joined in 1990 and was elected onto the committee in early 1993, though that also may have been late 1992. We were at Green Street in Gillingham then, at the Further Education Centre I think it was called and were known then as the Medway Lapidary and Mineral Society; we even had a work shop for polishing and cutting rocks and stones.

About the end of 1993 we had a meeting at Doug Johnstone-Browns house, he was the treasurer at the time, and again I'm not sure about this, but he said he was retiring in the summer following and he and his wife Emma were emigrating to Northern Ireland, she being a native of that country and therefore we would need a new treasurer.

As with everyone else there I did not put my hand up to take the job on. However, we were asked in turn and because most already had jobs within the Society to do and I had not I agreed to take it on the following year. I had now to shadow Doug and learn as much as I could over the next six months or so. Doug was old school in as much that he used a huge ledger for writing up the accounts, which also meant a lot of adding up numbers by calculator as well. This was not for me, though I do still use his twin receipt books system, of Income and Expense, in order to keep transactions separated.

I had been self-employed for a time and did my own accounts on computer using Microsoft Money so it wasn't long before I was doing the same, which I still do, for the Society's. I also had a bank account and I'm sure Doug did also, but he held the society's money in a Building Society Account; so I enquired at committee to change to a bank account and got the go-ahead; that was 1996/7.

Over those earlier years we have also had to make changes of venue, which meant losing our ability to cut and polish rocks. This meant there would be no Lapidary because we had no means to do so; it meant a change of name. Between 2004 to 2005 we changed our name to its present one and moved to Fort Horsted College. We weren't there very long and had to move again to our present venue, Horsted now being a housing estate.

Something else we did in those days was the Gem Show, the last one being held in 2006, at the Savacentre Hall above the food court there. This had been started some years previous and was well under way by the time I became treasurer; so this was something else I had to get my head around. We had anything up to 25 tables around the hall where various mineral and fossil companies and individuals came to sell their wares; and a quite interesting bunch they were. Because it was held upstairs we had to get extra tables from elsewhere to add to the ones the hall already had; which we carried upstairs to the hall and laid them out in a specific way for maximum use. The Society also assisted the sellers with getting their sales material up to the hall. This meant a lot of muscle and sweat prior to the Fair as well as after in getting unsold material back to the owners' cars, the tables back down for collection and cleaning the hall. It was hard work, but well worth the effort for the income it brought to the Society. In the end it did get too much for many, we were all getting older, there were less members, the management at the Savacentre were also becoming obstinate and unhelpful and one of our mainstays Teresa Watson, who was by then coordinator for the show, had to stop due to work commitments.

So that was from 1993, by shadowing Doug, but by 1994 summer, myself, after Doug left.

As well as the Gem Shows we also produced not one but three books:-

London Clay Fossils of the Isle of Sheppey, 2000

London Clay Fossils of Kent and Essex, 2009

Ammonites & other Cephalopods, 2007

We also produced a CD-ROM of the Geology of the Lower Cretaceous Wealden. These all had to be paid for by the acquisition of loans and grants which I wasn't directly involved with, all I had to do was collate the expenses and income from sales and pay back the loan. That was for the first book.

For the CD-ROM we gained a grant from the Millennium Fund which allowed us to drive around Kent and Sussex visiting various sites and building a rock collection, with all the other bits and pieces that required which then included producing the discs for sale, which we obtained a second grant from the GA – the Curry Fund. The Society had won an award for that through Down To Earth and their involvement with ENI, not sure what that stands for now, but it was a geological challenge; that was 2004.

With the other two books the Society had by now enough money in the Savings Account to offer loans for their printing, so it was down to me to account for that. I have to say that the authors of the book did all the selling, all I had to do was put it in the bank. We have David and Martin Rayner, Tony Mitchell and Fred Clouter to thank for producing the books and the late Harry Day and Dr. Robert Stout for the CD-ROM, along with this other chap, oh, alright then, it was me!

This was up to 2009 and by now I had had enough and resigned for the first time in 2011. I had a break until 2013 when by now it was obvious the person who had taken over from me, could not cope and I offered my services once more.

It is now 2017 and I have now been doing this for over 21 years, I think that is long enough so tender my resignation again. It is not an onerous job, and is easier now than when I first took over.

Whoever should take this on I will of course be available for any help and assistance until such person be comfortable with it.

## **WAM Research**

### **Tony Mitchell**

I have recently reread the script of one of **Walter Alfred Mitchell's** [my grandfather] lectures given in the early 1920s to an audience of bacteriologists in Cambridge. He started as a worker in the 'Science Workroom' in St Bartholomew's Hospital in London in the 1890s. This was right at the start of research in the new science of Bacteriology and he records a meeting with Lord Lister and 'had some words' with him. He later moved to Cambridge at the Department of Pathology and was eventually awarded an honorary MA. For non-bacteriologists *Bacillus proteus* is harmless and *Bacillus pestis* is the plague.

## From **Walter Alfred Mitchell**

One of the most amusing ‘researches’ I ever had to do work with was a claim to have transmuted *B. proteus* by means of a special ‘pabulum’ into *B. pestis*. Prof. Woodhead sent for me one day and asked for mice. Yes, I had some in stock. He held up an ordinary cream sandwich biscuit and said “this will kill a mouse in 10 hours and I want to P.M. it as soon as it dies”. I replied that I was going to the theatre this evening and would come into the lab after the show and feed the mouse, which would then be ready for him first thing in the morning. Next morning the mouse was sitting up asking for more biscuit and it enjoyed the professor’s entire stock of lethal biscuits without turning a hair.

The biscuits had been prepared by a famous New York consultant, brother of an equally famous Cambridge Arts professor. He was very surprised to get Prof. Woodhead’s report as he had always succeeded. His pabulum must have gone wrong so could he come to Cambridge and prepare some more? He was a most entertaining person and the tales of his patients, and his treatment of them, were most entertaining. They made me wonder what percentage of charlatan psychologist and physician went to make up the successful society consultant. After the Department of Chemistry had been raided to provide the ‘necessary’ apparatus for the concoction of the brew with much boiling and stirring of the, as far as I remember, secret ingredients the pabulum was declared ready. The whole palaver was accompanied by many more entertaining stories about his patients. More mice were supplied and our results repeated. The mice enjoyed it all.

One morning he came into the lab as ebullient as ever. He had found the cause of our failure. The colour bar. “I notice you always gave me tame white mice while I always used wild brown mice and I am sure I will succeed if you get me some wild ones.” “Yes” I replied, “I can get wild ones but did you keep any controls.” He knew nothing of controls, so I explained that wild mice in close captivity die within 24 hours. Controls would have proved this.

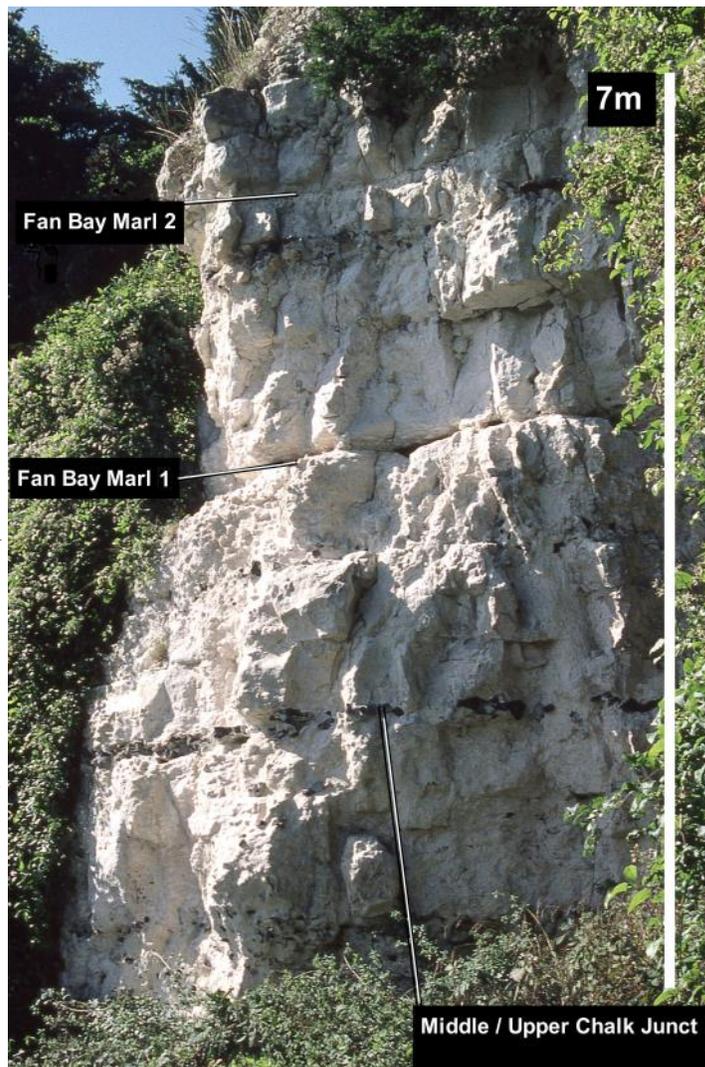
So wild mice and controls were used for his next experiment. Next morning he came to me fuller than ever with enthusiasm. All his mice, and controls were dead, Most interesting. And that was the end of what might have been epoch-making research.

## *Old Chalk Pits I Have Known*

### **Flittermouse Hole. Birling Nick Baker**

The title comes from a character I used to know in my office, but not in the same room, in those days when the Civil Service was staffed by eccentrics, a situation, which seemed to be ended by the oncoming of new technology, or perhaps the type of eccentric simply evolved (well, I am a geologist!) Anyway, the character in question was a first-rate draftsman, and knew how to take the ....em, yes. He got to know my interests and since he drew up a regular cartoon for the office newspaper, I realised I was being got at when spoof titles began to appear, like *Every Boys Book of Jurassic Limestones. Coming to Terms with Anthracite*, and also the title above. He did not last. After an argument with his boss, a few weeks later, he threw an Amstrad (this was c1985) through a window into Kingsway. (a month’s pay—cost of Amstrad deducted, and no references). Finis.

So, If you are travelling between Borough Green and West Malling, and you are able to **safely** look to the north, you will see, on the western ridge of the downs, two small white notches amid the woodlands. There are two sections—east and west. They are the same in stratigraphy but I am dealing with the west (smaller) section. They are extremely overgrown these days and White Horse Wood, in which they are situated, appears to be the property of

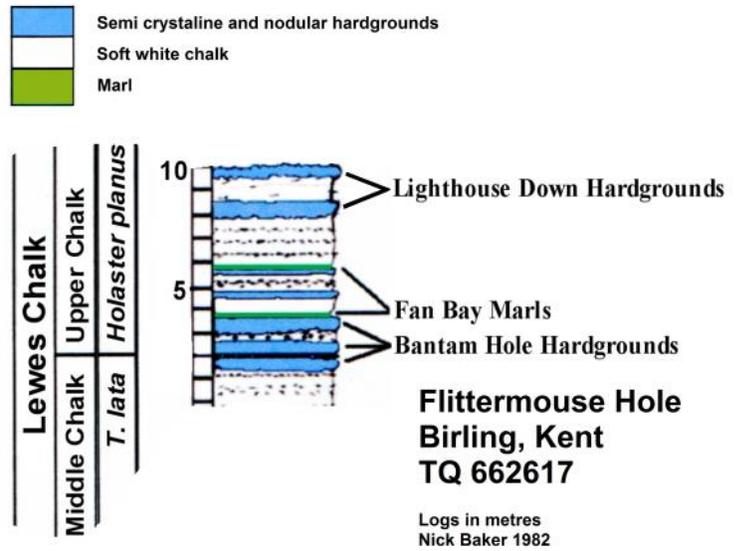


Birling Estates. When I came upon the chalk cliffs in 1960, I thought they were some form of natural cliff, but it would seem that they are part of a very old quarry, certainly pre-dating 1900. The name implies that they are a good haunt for bats, and the guano is abundant in places. Not only are they over-grown but also very difficult—even **dangerous**—to access. And, the woodland is **private**. However, in the years 1960-1990 I visited about 40 times, but never saw anybody else even once. I was told by a member of the Trottiscliffe Parish Council (1965) that it was my responsibility (that was how it was 50 years ago), but I was a serial trespasser, curtailed these days by antique qualities—the question—how did I ever get down there? often arises! But it became a sort of ‘mystical’ place, with a fantastic view to the south and ancient wood to the north.

But in the days that I did visit, what of the geology? Well, the very highest section that you can view only from afar at Blue Bell Hill, is at this place. It is the basal beds of the Upper Chalk and the top two or three metres of the Middle Chalk. Fossils are hard to find in the cliff—I think this is due to earlier collecting, and the fossils I found were almost always in the scree, but a clay slope above the scree allowed examination of every level of the cliff, and echinoids were found *in situ* at the top.

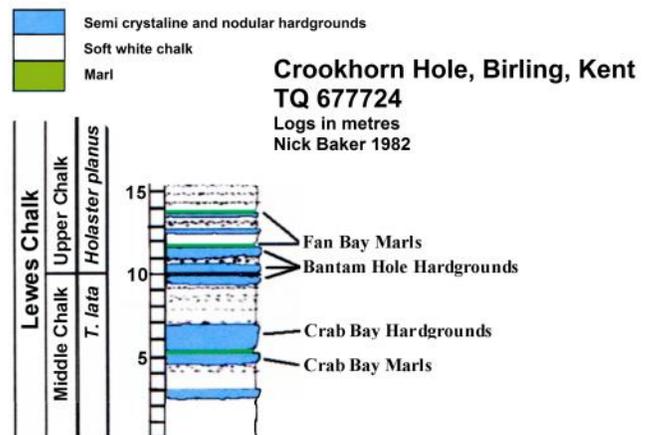
Of the fauna, echinoids such as *Micraster* are the most apparent, followed by *Holaster*, *Echinocorys* and Cidarids. Large *Epiaster corbovis* can be found but I have never found them *in situ*. Of the *Micrasters*, small *Micraster leskei* are the most common, ranging up to larger *leskei* in the top of the cliff. The *Micraster* precursor *Epiaster michellini* can occasionally be found.

Of the variability of the bivalves, it appears to be less, but the usual suspects, such as *spondylus* and *Inoceramus* are well represented.



The resurgence of the brachiopods in the Jurassic was continued into the Cretaceous, and forms such as *Terebratulina*, *Terebratula*, *Rhynchonella* and (at the top of the section) *Cretyrhynchia* are well represented. A list of fossils is given on the next page.

To the west of the chalk bluff is a small cave, which I think is actually a fissure that has been widened by weathering. Other caves are said to occur on the downs a little to the west but I have never found them. They are often attributed to be Flittermouse Hole but to the best of my knowledge, this is the true site of the name. On the slope of the downs to the east is another pit called Crookhorn Hole. This exposes more of the



Middle Chalk and, like Flittermouse, is much overgrown.

A mystery arises from this in that Flittermouse is at 180m elevation, while the same beds at Crookhorn are at 120m. The local dip and strike gave no clues as to why this should be, until a north-south fault was found to run between the two sites. This Billericay fault down-throws to the east, but by how much is not certain. However, the effect may run a considerable way to the east. For instance the *Plenus* Marls on the west side of the Medway, appear to be displaced downwards relative to the same beds on the immediate east side. It may account for other features such as the Buckland Valley, south of Luddesdown and the northward swing of the Thames between Cliffe and East Tilbury.

The list of fossils that I have found is as follows.....

**Sponges.** Sponges are common in the higher Chalk but I have found few at Flittermouse. Of the *Porosphaera*, what are often found are the flint cores of flint nodules. True calcitic *Porosphaera* are common in the *Cortestudinarium*—*Decipiens* and *Normanniae* zones. However, small (<2mm) are common in micro samples from this locality. *Ventriculites* occurs occasionally.

**Corals.** Corals are few, but I have found *Parasmilia fittoni*.

**Bryozoa.** Bryozoa are common in micro samples.

**Marine worms.** Serpulids can be found, but *Glommerulus* is common in micro samples, often in association with the bryozoa.

**Brachiopoda** These are common, as follows... *Cretirhynchia arcuata*, *Cretirhynchia plicatilis*, *Cretirhynchia sp.* *Gibbithyris semiglobosa*, *Gibbithyris sp.* *Orbirhynchia dispensa*, *Orbirhynchia sp.* *Terebratula sp.* *Terebratulina lata*, *Terebratulina striatula*. Microsamples often contain *Isocrania*, but can be found up to 5mm diameter.

**Bivalves.** Slightly less common—*Inoceramus lamarcki*, *Inoceramus sp.*, *Neithea sexcostatus*, *Pycnodonte vesicularis*, *Spondylus spinosa*, *Teredo sp.*

**Gastropoda** These are rare, but when they do occur it is as casts. I have occasionally found *Bathrotomaria*.

**Echinoides** Echinoides are the most likely fossils to be found. *Cidaris* (Plates and spines), *Echinocorys scutata*, *Echinocorys gravesi*, *Epiaster corbovis*, var *Planus* and *lata*. *Epiaster michellini*, *Holaster placenta*, *Holaster planus*, *Micraster leskei*, *Phymosoma koenigi*. Micro samples often contain fragments as well as juveniles, but the latter are rare.

**Crinoidea** Fragments often occur in micro samples.

**Ammonites** I have to say that I have found no ammonites, although they do occur in this level of the Chalk.

**Fish teeth** occur from time to time. Microsamples often contain very small teeth and vertebra.

Micro samples will be rich in **foraminifera** and **ostracods**. The largest and most noticed foraminifera are the lenticulenids—ranging up to 2mm diameter. Of the ostracods, *Bairdia* is the most common.

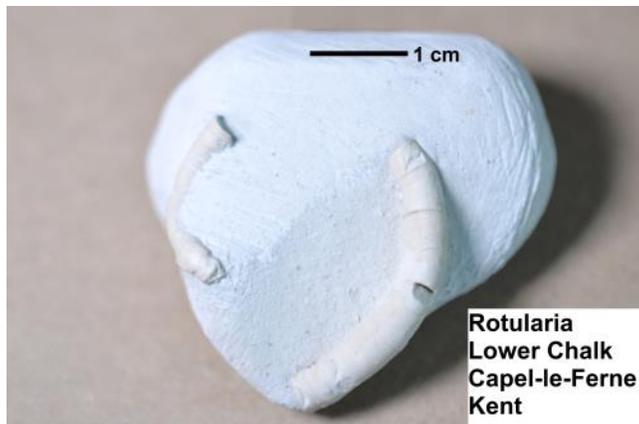
The level of Chalk exposed here was/is exposed in numerous Chalk pits around the Lower Medway Valley. These days the one needs to go to the Kent Coast. The basal beds of the Upper Chalk were formerly accessible at Langdon Bay, but as far as I know that is still closed, and given current questions of coastal security, might remain so for some time. However, the beds are exposed a little way south of St Margaret, at Fan Bay, where the marl seams exposed at Flittermouse descend to beach level. However, the beach just south of St Margaret is very low relative to mean sea-level. So start out on a falling tide on a fortnightly spring tide (Full or new moon) and do not stay long before returning. This was where a crowd of teenagers got cut off a year or so back—but they had no regard for the tide. Beware also of days of strong northerly gales (Storm surges) - the tide may not even go out, and beware of unstable cliffs—it is probably best to concentrate on the wave-cut platform, where the bedding can be well exposed and accessible. Note that fossils found on sea coasts are heavily charged with salt and will need prolonged soaking in fresh water—I used to soak all my finds for up to a month!

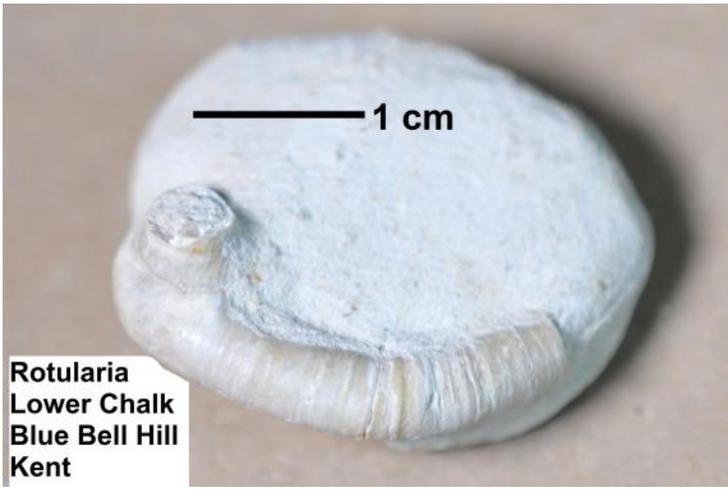
## Come to Torms with Worms.

### Portraits of *Rotularia*

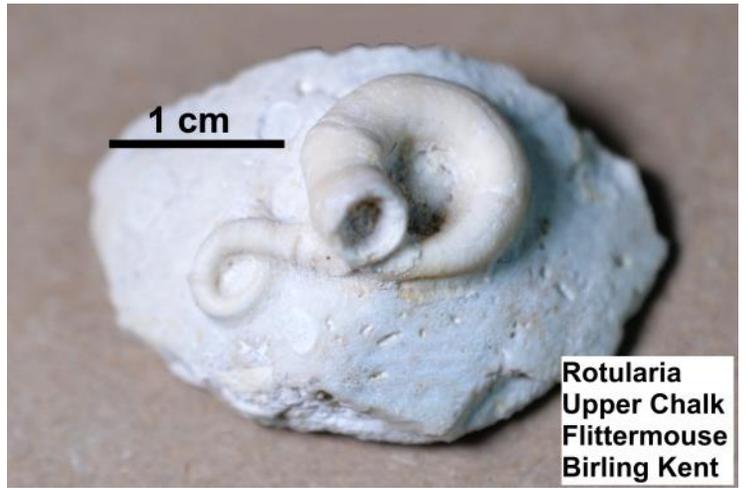
Nick Baker

Well, they got a mention in the article above and so time for a little picture gallery. The ones shown are those I had to hand in the Upper Greensand and Lower Chalk. The examples are shell-building marine worms. This type can be found from Cambrian strata through to the present day. All types of worm can leave a record as a trace fossil. All photos by the author

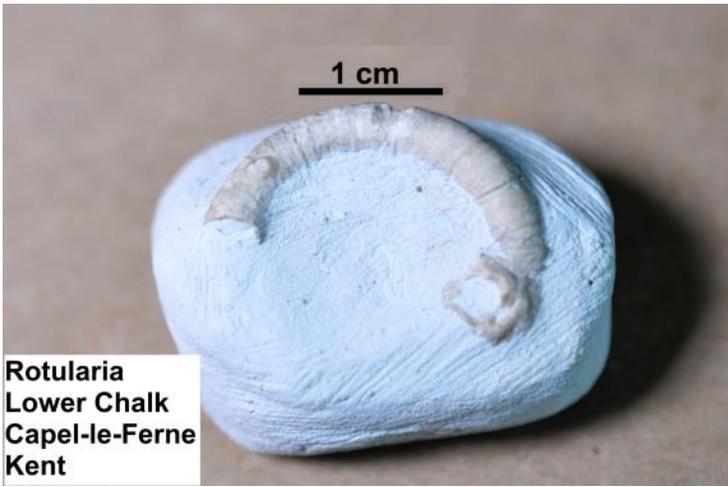




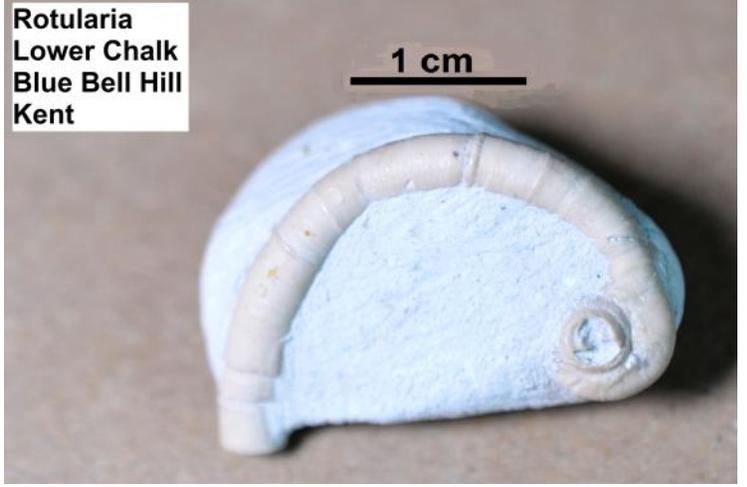
**Rotularia**  
Lower Chalk  
Blue Bell Hill  
Kent



**Rotularia**  
Upper Chalk  
Fluttermouse  
Birling Kent



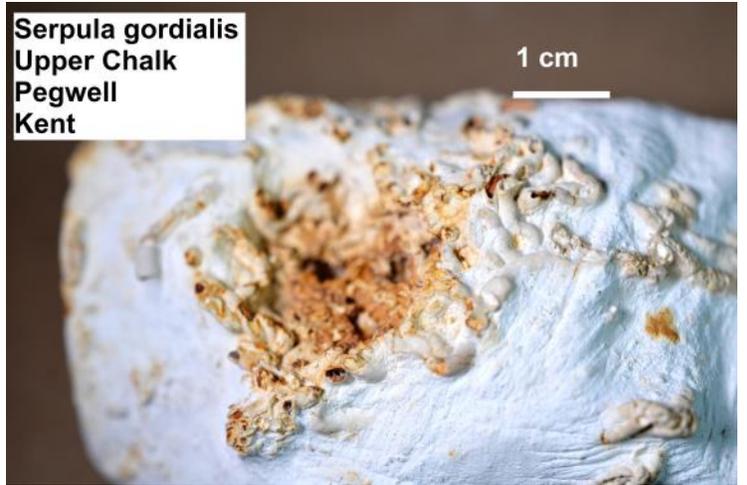
**Rotularia**  
Lower Chalk  
Capel-le-Ferne  
Kent



**Rotularia**  
Lower Chalk  
Blue Bell Hill  
Kent



**Rotularia concava**  
Upper Greensand  
Culverhole Point  
Devon



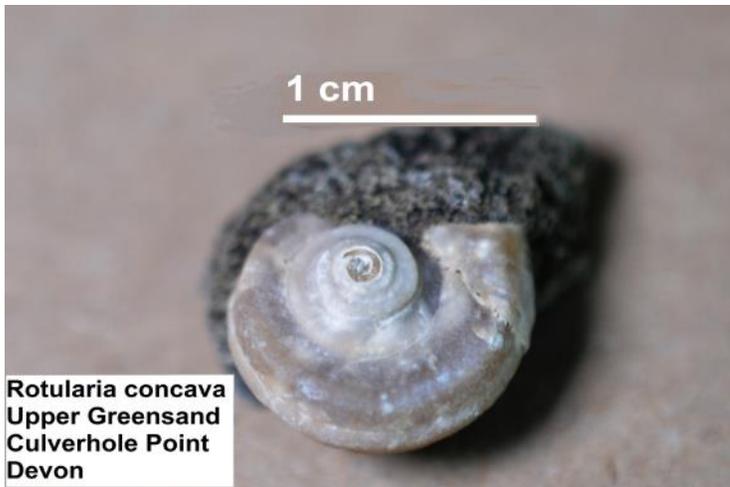
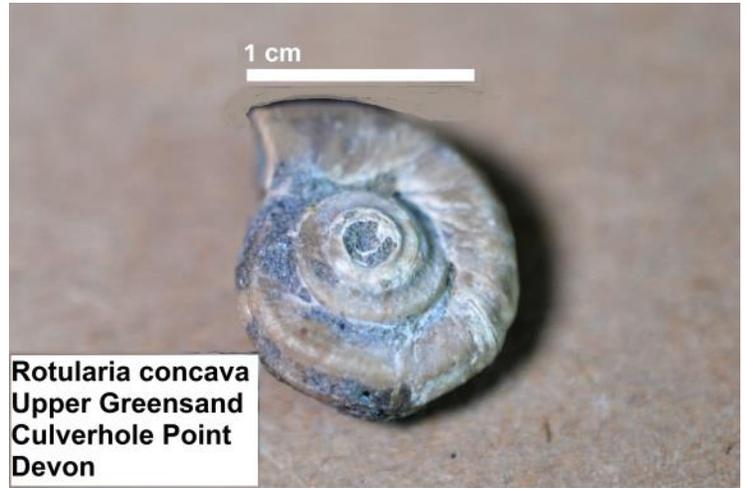
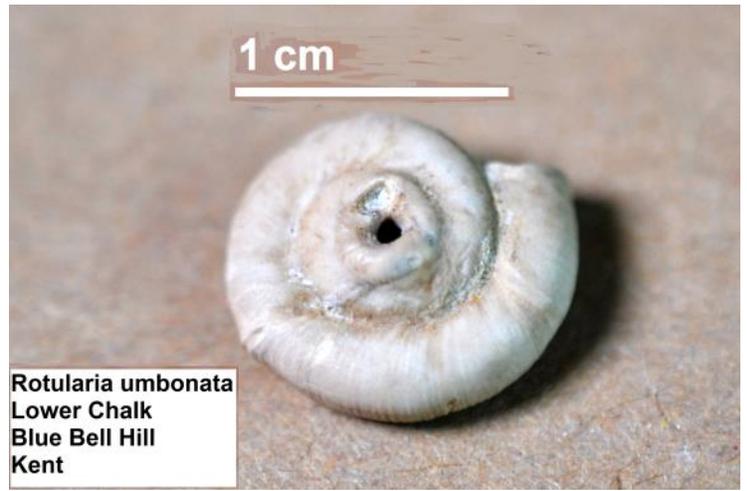
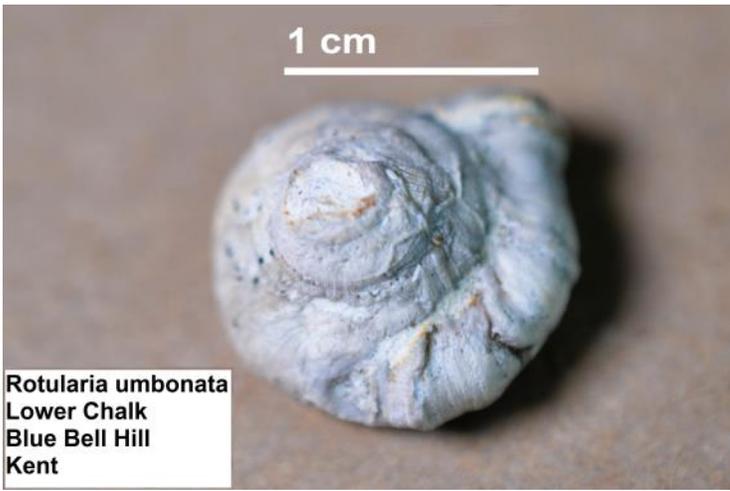
**Serpula gordialis**  
Upper Chalk  
Pegwell  
Kent



**Rotularia umbonata**  
Lower Chalk  
Blue Bell Hill  
Kent



**Rotularia umbonata**  
Lower Chalk  
Blue Bell Hill  
Kent



## **Autumn Round-Up**

### **September 13<sup>th</sup> 2017**

Got to the church hall. Unlocked the front door and then found that the kitchen and toilets were locked – I do not have the keys for those. Steve Taylor climbed in the kitchen hatchway and was able to serve tea and coffee. Tony had brought along some items (sorry, I did not make notes) and everybody had a good natter

### **September 20<sup>th</sup> 2017**

The subject was Amber. Several folks brought good examples with insects.

### **September 27<sup>th</sup> 2017**

Jo van Soest and Nico Taverne arrived to give their talk on Ammonite predation. Nico gave a very good talk, raising a lot of points we had not thought of before. He also brought along a lot of ammonite specimens, some of which we could keep. We gave him a copy of the *Fossils of the London Clay*.

### **October 4<sup>th</sup> 2017**

Owing to changes in the program, not everybody got to know—some due to non internet connection. Will need a **new information method for those**. Before the meeting, a gent in a blue uniform appeared. He introduced himself as the Traffic Enforcement Officer. We shook hands and then realised that he was probably after the church meeting next door, which had attracted a large number of cars.

The proposed change in the program was 'East Anglia', but no one had brought anything. Ann came with some rocks and minerals she had found in Brazil. We set about trying to identify them. While doing this a power failure occurred, which seemed to cover the whole area. After a few minutes the power came back.

### **October 11<sup>th</sup> 2017**

The Muck above the Chalk. It raised more questions than answers. The Clay with flints is still something of an enigma.

### **October 18<sup>th</sup> 2017**

Chris Duffin gave a talk on the Solnhofen Limestone.

### **October 25<sup>th</sup> 2017**

The AGM. Yours Truly accepted the position as Treasurer

### **November 1<sup>st</sup> 2017**

James gave a talk on 'mass extinctions' and their likely causes

### **November 8<sup>th</sup> 2017**

The theme was East Anglia, which included Essex! I took along a display, especially of the Red Crag

### **November 15<sup>th</sup> 2017**

The theme for the evening was Yorkshire.

### **November 22<sup>nd</sup> 2017**

Tony gave a talk on a trip he and Betty made to South China. It was very informative and entertaining.

### **November 29<sup>th</sup> 2017**

The theme was France. Tony and Gary brought along fossils. Gary brought along large items, in some way looking like corals, another looked like a giant limpet. They were, in fact, rudist bivalves. I had some samples from France, including a lot of shells from the Calcaire Grossier, collected by Dr A. J. Rundle.

Proposed

### **December 6 2017**

A Silent Auction. Everybody brings specs for sale. Others then write a price they are willing to pay.. And on..

### **December 13<sup>th</sup> 2017**

End of Term (Christmas) Party.

## Spring Program

<b>Jan 10</b>	<b>Welcome back</b>	<b>All members</b>
<b>Jan 17</b>	<b>Field trip planning / display of finds from locations.</b>	<b>All members</b>
<b>Jan 24</b>	<b>Alphabetical selection –geological objects (A)</b>	<b>All members</b>
<b>Jan 31</b>	<b>Talk TBA</b>	<b>Ann</b>
<b>Feb 07</b>	<b>Insects (including fossil)</b>	<b>All members</b>
<b>Feb 14</b>	<b>Where to collect specimens (Fossil and mineral)</b>	<b>All members</b>
<b>Feb 21</b>	<b>Global Warming</b>	<b>James</b>
<b>Feb 28</b>	<b>What’s the story? (behind the specimens)</b>	<b>All members</b>
<b>Mar 07</b>	<b>Birds (including fossil)</b>	<b>All members</b>
<b>Mar 14</b>	<b>South Africa</b>	<b>Gary</b>
<b>Mar 21</b>	<b>Pictures on a stick</b>	<b>All members</b>
<b>Mar 28</b>	<b>End of term party / latest finds</b>	<b>All members</b>
<b>Apr 04</b>	<b>Easter break</b>	<b>*****</b>
<b>Apr 11</b>	<b>Easter break</b>	<b>*****</b>
<b>Apr 18</b>	<b>Welcome back</b>	<b>All members</b>
<b>Apr 25</b>	<b>Gamble and Dibley (The grocer and The teacher )</b>	<b>Nick</b>
<b>May 02</b>	<b>Alphabetical selection –geological objects (B)</b>	<b>All members</b>
<b>May 09</b>	<b>Micro and Miniature specimens.</b>	<b>All members</b>
<b>May 16</b>	<b>Reptiles (including fossil)</b>	<b>All members</b>
<b>May 23</b>	<b>Road Show preparation</b>	<b>All members</b>
<b>May 30</b>	<b>Tuition night</b>	<b>James +</b>
<b>Jun 06</b>	<b>Talk TBA</b>	<b>Ann</b>
<b>Jun 13</b>	<b>Trace fossils</b>	<b>All members</b>
<b>Jun 20</b>	<b>Questions and answers</b>	<b>James</b>
<b>Jun 27</b>	<b>Alphabetical selection –geological objects (C)</b>	<b>All members</b>
<b>Jul 04</b>	<b>Plants ( including fossil)</b>	<b>All members</b>
<b>Jul 11</b>	<b>Historical Geologists</b>	<b>James</b>
<b>Jul 18</b>	<b>End of Term party</b>	<b>All members</b>