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BOURNEMOUTH NATURAL SCIENCE SOCIETY & MUSEUM

Share our love of science NEWSLETTER

SUMMER 2019

BEAF WEEKEND 4/5 May



Giant Ants found in BNSS
Garden shock

Over the weekend of 4/5 May we were invited by the Bournemouth Emergent Arts Fringe Festival to act as host to the Museum of Ecoacoustic Phenomena. A workshop was held on Saturday Morning offering students the opportunity to go around the BNSS garden with a variety of microphones and hydrophones linked to personal headphones to listen to what goes on inside wood, the pond the earth etc. It can be quite extraordinary to discover the sound made by a fern when stroked on a wire.

Woodlice make more noise than you might imagine!

Later, and on Sunday a variety of soundscapes from Ancient Trees in the New Forest, an ecoacoustic rockpool, Dungeness, an ocean reef, and a dawn chorus were all played through headphones to anyone wanting to listen in the garden. A live cellist accompanied one of the pieces. During



Saturday afternoon Professor Adrian Newton gave a very interesting science talk on the difference in sounds of a rich biodiverse ecosystem to a reduced or compromised ecosystem. In a rich biodiverse ecosystem such as a healthy ocean, all the range of sound wavelengths are taken up by coral and its inhabitants, shrimp, fish, other crustaceans, sharks, dolphins, whales etc, whereas in a reduced

ecosystem there is a measurably less use of sound wavelengths and only a few spikes of sound available to hear. This is what you might expect, but scientists are only now beginning to measure the differences.



Rachel Carson was right when she penned 'The Silent Spring' in 1962, which referred to the widespread use of pesticides killing off more insects than just crop pests and leading to collapse of bird populations.



Inside Adrian Newton and Lynn Davey had made a fantastic set of push button wooden boxes to illustrate the sounds that would have been made by our seabirds displayed in a glass case, a wasps nest etc. Beautiful sounds from Dorset woodlands were available to hear on another set of boxes and an interesting piece of two blackbirds rivalling each other in song. The latter could be altered depending on how much interference one made as a human, illustrating how much our presence on the earth can interfere with natural processes. Both

children and adults alike loved the push button experiences. A student from BU demonstrated how tipping points could be arrived at in ecosystems using the Jenga game, and other



children's games, to illustrate ecosystem collapse.

Outside in the garden a team from the Urban Furniture Perspective had made giant mutant insects and spread them around the bushes.



Susan Cunningham led a workshop drawing trees on Sunday afternoon.

A big thank you to all the BNSS staff who turned out again so soon after the Family weekend, to make the BEAF weekend an enjoyable one for more of the public to see our collections and to get involved in understanding ecology. For further understanding and Interest please view:

Record the Earth is here - <https://www.recordtheearth.org/>

International Society of Ecoacoustics - <https://sites.google.com/site/ecoacousticssociety/about>

New Guinea example - <https://blog.nature.org/science/2017/07/24/forest-soundscapes-hold-the-key-for-biodiversity-monitoring/>

For sounds from Adrian Newton including soundscape compositions, featuring the New Forest and the internal sound of ash trees, visit <https://archive.org/details/nocti33>

Mary Thornton

THE GARDEN IN SUMMER 2019



Since the last garden report, tree work has been completed, letting in light to lower levels. Sadly we have to confirm that the suspected honey fungus has now been confirmed in the back garden. It may well have been the cause of several recent rapid declines and deaths such as the cornus kousa.

However, our guru, Mark, assures us that healthy young plants can live with it.



Ginko

Meanwhile, the front garden comes into its own, as the herbaceous perennials reappear after their winter rest. Every week something different re-emerges to please the eye. Carol tames it only as far as necessary, and the profusion of geraniums, gladioli, hollyhocks, evening primrose and more are set off by her favourite erigeron – dainty, daisy-like flowers cascading down the wall.

To the left of the car park exit grows the ginkgo biloba (only



Tulip Tree

surviving species from the Cenozoic era and a possible food source for dinosaurs). The liriodendron or tulip tree is still



Indian Bean Tree

relatively youthful and could be huge one day. The distinctive Indian bean tree produces its leaves rather late and has wonderfully scented flowers before the beans appear and hang for a full year. Other shrubs and small trees add to the mix in the front, as all give pleasure to our visitors, neighbours and passers-by.

Jill Abbot

I am Bethany Palumbo and I am volunteering as the 'Tahemaa Transformed' project conservator. I recently moved back to the south coast after 6 years in Oxford working at the Oxford University Museum of Natural History. Previous to this I worked at the American Museum of Natural History in New York City. I have a BA and MA in conservation from the University of Lincoln and am accredited by the UK Institute for Conservation (ICON).



My conservation speciality is natural history collections and organic materials such as wood and painted surfaces and I am completely honoured to have the opportunity to conserve Tahemaa as part of the 'Tahemaa Transformed' project. On an object of this rarity and of such historical significance, it's so important that treatment is sympathetic and minimal to

preserve Tahemaa as she is, not to change her. For this reason, I have chosen only to focus on cleaning and consolidation, more of which I will discuss on the project blog. I am working in the Egyptology room every Tuesday between 10am-2pm conserving Tahemaa LIVE so please come and take a look. I am really happy to be once again be involved with the BNSS having previously volunteered here during my undergraduate degree 10 years ago.

I want to say a massive special thank you to John Creswell, who so kindly let me use the collections as part of my degree, spurring my love of taxidermy and most certainly setting me on the path that became my career. '



Who ever said things do not move fast at the BNSS? I am Joyce Navarro and yes, I am afraid I was one of those that said "I have lived here for 25 years and didn't know this place existed." I belonged to Ian Julian's nature group, and attended Isabella's talk on Knepp. The following Tuesday, given a guided tour, press-ganged into joining as a member and told "Don't volunteer for anything, otherwise you'll end up doing everything!" Little did I know that the following day I would get a message from Steve Limburn asking if I minded being thrown in at the deep end as he had a class of children coming and I could help him in Egyptology. Did I mind?! I jumped at the chance. I went down

well apparently, asked to do the same the following Monday and then to my great surprise was asked if I would like to be Head of Egyptology as the post was vacant!

I am starting to realise that there is a lot of research I will need to do, as although my predecessor, Stephanie Roberts, did a sterling job over the nine years she was with us, there are many unanswered questions with regard to our mummy, limestone relief and other artefacts. Therefore my mission is to move forward where she left off, with regard to the research. My first job, along with reading all Steph's research papers (volumes and volumes) will be to build up a network of contacts who hopefully will be able to assist me on this quest. This may lead to me arranging some interesting Tuesday evening lectures on the subject by some of these contacts. In addition, I hope to be able to assist in the redesign of the Egyptology room as at the moment it does not display our prized artefacts to their best ability and some of the signage is looking very tired or doesn't exist at all. Calligraphy, sewing and crafting are other passions of mine, so I also intend to produce a papyrus scroll depicting the English translation of the Rosetta stone, and re-do the existing Ancient Egyptian timeline chart on linen.



So here I am and loving every minute of it. I have my work cut out!

I am Vanessa Pearson. In September 2018 at the start of my final year on the BA (Hons) Modelmaking Degree at the Arts University Bournemouth, my first brief was to make a model for a real client. At the time, I was interested in exploring the techniques of facial reconstruction, and, having practised the previous year with an anonymous modern skull, I decided to seek out a genuine historical figure to reconstruct. A friend suggested that the BNSS might have a skull I could bring to life, and put me in contact with Bryan Popple. It turns out that my project lined up well with the story of the museum's



mummy, Tahemaa, who was in need of a fresh face having had new, higher quality scans in 2009 that identified her as a different age since her original facial reconstruction by Richard Neave in 1996.

The first challenge was converting the scan files of Tahemaa's skull into a format suitable for 3D printing so that I would even have a skull to work on. This involved downloading a lot of unfamiliar software and experimentation with file conversion... The decision to reconstruct Tahemaa physically in 3D rather than using computer software was influenced both by the fact that my university didn't have access to the specialist software, and my own opinion that seeing a physical model face to face, is much more accessible and relatable on an emotional level to a museum's visitors. I also met with facial reconstruction expert, Richard Neave, in the summer of 2018, to pick his brain for advice on facial reconstruction techniques. I then started building the muscles and fatty tissues onto the 3D print of Tahemaa's skull using the Manchester Method of facial reconstruction, and following Neave's regular feedback via emails.

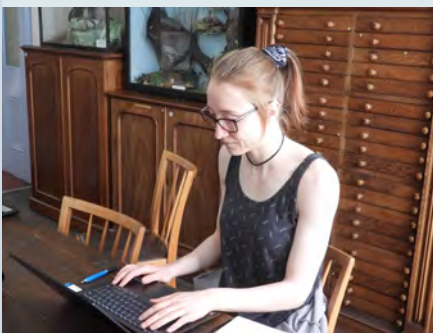


Bryan, Vanessa, Bethany, Joyce at Vanessa's lecture

On the accuracy of the final reconstructed face, it is hard to put a quantitative value on. It is impossible to see the original face of Tahemaa, so no one can definitively vote for or against the likeness of the face I built, but I can vouch for the accuracy in the methodology. As a student, there was a learning curve throughout the process, but I made sure that every decision I made had a reason; every facial feature is backed up by research and follows the skull's morphology.

With each of those steps there is room for error from interpretation, which is naturally exaggerated by my lack of experience. But, at the end of the day, the facial reconstruction of Tahemaa is to be seen as an estimation and not an exact representation, and I can wholeheartedly say I put my best efforts into reconstructing her as accurately as I could.

My name is Keri Murrell, I am currently studying a BSc (Hons) in Animal Science Zoo and Wildlife Conservation at Writtle University College, Essex. During my summer break I am volunteering with the



BNSS to help set up the Quick Response (QR) code system. (Free to download, easy to use.) Due to the large number of specimens, space is limited within cabinets to provide visitors knowledge. These codes, once scanned by mobile phones, provide an internet link to information on the relevant exhibit, with the possibility of other media such as videos, audio and images.



Plate 1: a QR code

This pilot project will be conducted on 10 specimens including the Osprey, Passenger Pigeon and Tahemaa, with the aim to obtain visitor views on the code's accessibility around the museum and troubleshoot any issues that arise. Pilots conducted at other museums and galleries suggested an improved user-friendliness to those with learning difficulties, and an increase interest in college-age visitors. You cannot beat the personal guides, but these should be a helpful addition.

Lantern Update

Since my last report, work on repairing the dismantled parts of the lantern at the RT Carpentry workshop has been



completed and they are ready to be re-assembled at the BNSS. The repairs required to the base of the lantern, which were carried out in situ, have also been completed as well as the drainage gutter around the base.

So what is the holdup? Well, whilst removing the bottom rows of roof tiles that surround the lantern, to enable work on the gutter, it was found that the nails holding the tiles in place were in a much worse condition than originally thought. Fortunately to re-roof had been part of the original plan and budget, but had been removed on the basis that it was thought unnecessary, so it was relatively simple to re-instate this work. However, getting a roofing contractor with the required experience and qualification at short notice has caused a delay.



At present work has started to remove the tiles from the roof slopes which are then cleaned and if sound saved for re-use. A revised completion date is currently being finalised.

Colin Lord



ORRERY

BNSS -

26.2.19

Clockwork

Planetary

System



VISIT TO KNEPP ESTATE - SUSSEX

22.5.19



14 of us spent a sun-kissed day at Knepp; a unique life-enhancing experience. Within 5 minutes of setting-off we gazed upon White Storks nesting atop a tree, the first such nesting Storks in the UK for 400 years! Yet here and throughout the



trip, we were virtually the only visitors to this site. Not sure why, nor why this has not become the biggest ever bird twitch.

It may be that others believe Knepp is inaccessible, but in fact it is *free* to wander, all 3,500 acres, there are public footpaths, and you may even



use their facilities and car park. I urge you to do so, or come with us next time we visit - we now have 47 interested in coming along, probably with paid guides.

We, the BNSS, were awarded a special tour, with Paul and Tegan as our excellent, enthusiastic



guides; listening to Nightingales, courting Cuckoos and walking amongst trees and thorny scrub. We climbed to a tree platform, gazing upon the scene of how England truly was before farming, listening to the constant birdsong, and we were unexpectedly served the best-ever tea and brownies - - although this may



have had something to do with 'location' and the surprise.

Do visit, even by yourself, see the website, watch the videos read the book, be amazed and let me know if you wish to join the list.

Here is a message from Penny, chief ecologist:

We're delighted to hear that you had such a wonderful time visiting Knepp Wildland, and thank you for taking the time to send this lovely feedback which I will be sure to pass on to Tegan and Paul. They both said that they loved showing your group around and that your enthusiasm levels were off the scale. We feel very fortunate indeed to have such a great team of ecologists here leading safaris and getting visitors excited about rewilding and the benefits for wildlife, so it's lovely to hear that a group of seasoned naturalists have enjoyed some of the Knepp Wildland specialities! Thank you for the cheque and kind card. Hoping we see you here again in the future.



Tahemaa Transformed

Following on from the launch of the new facial reconstruction of Tahemaa, the BNSS's 25th dynasty Egyptian mummy, on 30 April 2019, we have now launched **Tahemaa Transformed**, a project to raise money for the preservation and refurbished display of Tahemaa, to re-house the Egyptology room collections, and to provide for ongoing specialist conservation for the museum collections.

Tahemaa was donated to the BNSS in the 1920's and spent many decades hidden away from public view. Only in recent years has she returned to display. However, due to her age and condition she is actively deteriorating and swift action is needed to save her. In addition, there are many rare ancient Egyptian artefacts and natural history specimens that need varying degrees of conservation and research, as well as more suitable display facilities.

The project **Tahemaa Transformed** aims to address all these issues. To achieve this, we've gathered a group of historians, conservators and Egyptology lovers – **Team Tahemaa** – to oversee the project. We will be fundraising throughout the summer of 2019 through a dedicated online *Gofundme* page and via donations from visitors, who can come to the BNSS every Tuesday between 10am and 2pm to see our Conservator at work and get a close-up and personal view of Tahemaa (suggested donation £5). The attached photo shows Bethany of Palumbo Conservation at work on the sarcophagus.



'Tahemaa is such a beautiful piece of ancient Egyptian history and we are so lucky to have her here in Bournemouth. Mummies of this quality are rare and it is so important that she is preserved and kept in a more suitable display, reducing the risks of deterioration caused by UV exposure or sudden environmental changes,' says Bethany.

'The restoration has re-kindled our research efforts into Tahemaa, her travels and her life and times,' comments Bryan Popple, BNSS President and Ar-

chaeology Chair, adding: 'It's also brought new interest to the entire Egyptian artefact collection, which contains a cast of the Rosetta stone and many rare pre-Dynastic objects, including pottery and stone tools.'

The new facial reconstruction of Tahemaa was created by Vanessa Pearson, a 2019 Model Making graduate of Arts University Bournemouth. Please visit our Facebook page to see the recent BBC South segment on her work.

<https://www.facebook.com/BournemouthNaturalScienceSociety/videos/435580903930246/>

Updates on Tahemaa Transformed can be found on the BNSS website under the 'News and Events' tab. Also keep an eye out for Tahemaa and other rare objects from the BNSS on the *Objectivity* YouTube channel: <https://www.youtube.com/channel/UCtwKon9qMt5YLVgQt1tvJKg>

A key part of the BNSS's activities are its many research projects. Among these are ongoing research into Tahemaa, our 25th Dynasty Egyptian mummy; the provenance of two Romano British stone heads on loan to the museum; and cataloguing of the flora at local sites of interest, for which we have some records dating back 100 years. Bryan Popple, BNSS President, comments: 'A large part of the research into Tahemaa - her origins and how she came to the UK and the BNSS - was done by Stephanie Roberts, John Cresswell, and others. The 2009 scan of the mummy added additional information about her age and possible ethnic background. Current research work is focussing on tracing her arrival in the UK - she was bought by a British collector of Egyptian antiquities and



shipped to the UK in circa 1825 - and where she was kept until she was sold at auction in 1880. In addition, we are looking into finding more information on her father, Hor, and the provenance of both his and Tahemaa's sarcophagi. Ongoing research will include finding out more about her life and times in Thebes circa 700 BCE. The task of piecing together the story of Tahemaa involves collecting information from 18th century newspaper reports, searches through BNSS books and papers, sale catalogues, other museum collections and records, and now

involves a growing team: Team Tahemaa!'. 'The two stone heads were brought into the museum by a local family whose origins are in southeast Wales,' says Bryan, 'My first impression led me to think that they were of Romano-British origin. Further investigations confirmed this and found that they were discovered near Monmouth a number of years ago. Dr Miles Russell of Bournemouth University agreed and consulted the British Museum, who said they date from circa 1st to mid-2nd century AD. They were likely free-standing sculptures of entire figures, of which we only have the torso of one. Further research is being done to determine the exact find spot and original purpose.'

We welcome input and involvement in these projects! Please come along and talk to our department experts if you have finds of wildlife or objects you would like assessed.

Bryan Popple, 30 May 2019



Bird migration occurs every day of the year, but if there are any 2 quiet months for birdwatchers, it is July and August. Birds are shattered after nesting, there is no singing at all apart from the Robin the only bird that sings all year round - but - fortunately - these are the best 2 months for insects, our butterflies and reptiles. So here is the first of several articles by Jonathan McGowan, as he writes about what and where to see our creatures.

Not only are we blessed with our wildlife, our beaches, our climate but let us be honest about this. We are the most scenic; the wonders of the Jurassic Coast, the New Forest up the road, heathlands, Poole and Christchurch Harbours and we have the BNSS!

Wildlife in the Bournemouth areas

There is a wealth of species to be found within the conurbation and even more outside. Whilst many of these species may be obvious and easy to see, others demand a search and knowhow of their environments. We are blessed here on the south coast by having all the main habitats for so many differing species because of the southerly and central aspect of the geography, which in turn dictates to some extent the soil types, plant species and therefore insect and bird species.

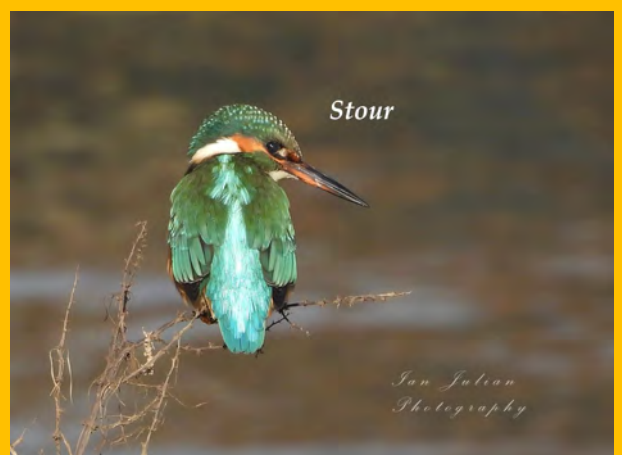
Within Bournemouth, Poole and Christchurch are many areas of marine habitat such as the harbours and sea fronts. Also are large parks some with rare and old trees or unusual plants. There are two main rivers, The Stour and the Avon. Their wildlife may or may not be so obvious, but hidden gems are everywhere. The Bourne stream has many species of fish, damselflies and water voles to be seen. Bournemouth used to be a Victorian naturalists' daydream as they flocked to search the insects and birds around the New Forest or the harbour birds and clifftop plants.

Today we have lost many of the rarities, but gained others in the wake of human intervention or due to climatic changes which are bringing more continental species across the channel. We are in the firing-line for migrant insects and birds, and being the most southerly aspect to Britain, we are slightly warmer which has helped with some species of which are at the most northerly limits due to temperature.

The most obvious places to search for wildlife is along the coastline. Although most of the marine life is invisible to us, one can still see the abundance of the hidden creatures that live in the sea or around the tide marks. Marine molluscs abound, such as the pelican foot shell and the whelks. Low and high tides can through up these beauties. Crab shells from spider, Cromer and swimming crabs can be found on the strand lines as well as many types of sea weed and the seahorses of which we have two species within the harbours and Poole bay. Cuttlefish and common whelk egg masses may be thrown up by the tides as well as the several species of jellyfish or similar forms such as the Portuguese man of war and the moon jelly, lion's mane, and by the wind sailors. Many worms, sea slugs, star fish and razor clams can be found. There are visible fish also, seen from the piers or even cruising up the rivers. The Stour is a great place to see grey mullet, they can be seen under Ilford bridge along with migrating sea trout and sometimes salmon.



Otters will be feeding on these and these mammals can be seen within the harbours as well as the rivers. Seals occasionally are seen within the harbours and occasionally venture further upstream. Kingfishers are abundant although territorial can be seen anywhere along all



the major and minor waterways. Winter is often better as they are tolerant of each other in bad weather and groups can be seen feeding where the waters do not freeze.

You may have noticed an increase in the newsletter to 12 pages, due to number of articles and pictures and the events going on. In fact all pieces had to be edited down, nice for an editor, not nice for contributors, but overall better that too much is going on. It will probably revert to 8 pages in the winter. Anyway, pictures on field trips and the Spring Fayre Open Weekend withheld until the next issue, so hurry hurry and join or renew your membership - NOW.

Also apologies for so much on Tahemaa - in mitigation an important time for our mummy, probably our most popular exhibit with the public, and for promoting the Society. But also, the BEAF, which was certainly different. Although I attended, as sometimes happens, I did not realise it was as good as it was, until I read Mary's report, so let us hope it becomes an annual event. We are ideally suited to display it both in our garden and indoors - science, nature and fun, a perfect combination for us, and symmetry with their equally hard-working and devoted volunteers.

Well done to Chris Packham, our **BNSS patron**, conservationist and our top naturalist. This time, an award richly deserved. Being able to communicate to all ages from 9 to 100, all abilities from infants to academics, transmitting his love of the natural world for a lifetime.



But he was awarded the honour for his devotion to his work, for always exceeding requirements, working continuously for those creatures without a vote, and as figurehead to the



conservationists, volunteers, wardens, rangers, naturalists, who give their time so generously. Conservationists constantly disagree with one another, but I concur 72.862% with Chris, and was pleased to join him and his family on 16th of May, for a joyous day in London as he received his CBE. Positive news for once!

If at any time you wish to edit the newsletter, just let us know. Thank you for the comments, and to those requesting a hard copy (which I admit is preferable), these are available for £1 at the BNSS. If you do like it, it is thanks to your contributions, the articles or photos submitted, so keep doing so, on any subject you wish to do with the Society, even if salacious or critical. Keep sending to

ianjulian@virginmedia.com.

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