SPELTHORNE NATURAL HISTORY SOCIETY
NEWSLETTER

www.snhs.org.uk
Hon Sec Gordon Freeman. 45, Lansdowne Road, Staines, TW18 1HH Tel: 01784 453402

Newsletter: Liz and Roger Whitaker, The Hollies, Middle Hill, Egham, Surrey, TW20 0JG
Spring 2025

Dear Member

Welcome to the Spring newsletter. Thank you to Peter Clifford for his contributions to the newsletter.

Booklet -Staines Moor
A booklet has been produced by Dr Phil Cribb in cooperation with Spelthorne Council on "The Wildlife of Staine Moor" and can be off-loaded free online at https://www.spelthorne.gov.uk/sssi/

Future Events

Wednesday April 9th at 8:15pm Swifts - the birds you need Edward Meyer from the Bird Charity "Swift Conservation" will give us a talk about these wonderful but declining birds.

Wednesday May 14th Society AGM and members photos.

Wednesday May 21st FIELD VISIT A visit to Kempton Nature Reserve Meet at 10 am at the entrance to the reserve at the corner of Nailhead Road and Main Street TW13 6ST. Grid ref TQ116712

Previous Events
Wednesday 11th December Christmas Social Evening, refreshments and a raffle. Members talks
Prior to the social, four short talks were presented by members.

1. Phil Cribb spoke on "The Montane Meadows of the Utah Mountains."

Utah is known more for its desert areas, such as Bryce Canyon. However, Phil climbed to an elevation of 1000 ft in nearby Cedar Breaks National Monument, where he found alpine meadows above the spruce and juniper woodland. In early June, many flowers could be seen, including lupines, penstemons, varieties of daisy and of Indian paintbrush. Phil showed pictures of some of the leading species. These included Lupinus palmeri (lupins are centred on North America), box elder (actually an Acer), robinia, the blue aquilegia and the maidenhair fern. Also the western delphinium, Lewis' flax and death camas, used by shamans. A highlight was Frasera splendida, which is a 1 m tall variety of gentian. Others included Rosa nutkana, many genera of daisies, up to 80 cm tall, the brightly coloured Castilleja (Indian paintbrush species) and the lily Calochortus nuttalli. The Penstemons included a remarkable variety of colour

combinations. Phil also showed a few animal species, including the chipmunk, Kaibab squirrel, dotted blue and Reakirt's blue butterfly.

2. Mike Gillies spoke on the phenomenon of "Hair Ice."

Mike is a keen amateur meteorologist as well as a gardener. In January 2023, there was a period of 42 hours continuously below freezing. Mike measured temperatures down to -5.7 C on two consecutive nights, rising to -0.7 C in the intervening day. There was no snow, but there was freezing fog, and the relative humidity reached as high as 98%. On a particular type of plant in Mike's garden – the Ceratostigma – he observed that flower-like ice formations had developed. When touched, they collapsed to powder. There is very limited documentation of this phenomenon, which is known as rabbit ice, frost flowers or hair ice. Mike's photographs showed that they had a complex and beautiful form. The most likely explanation appears to be that water is extruded from the plant tissue as its density reduces close to freezing point, and serves as the basis of the ice formation.

3. John Maxen spoke about the "SNHS Visit to the Natural History Museum."

John led a visit of SNHS members to the Natural History Museum on 20th November. He had worked there for many years in Entomology. The tour started with a visit to the Entomology collections, led by Alessandro Giusti. Alessandro introduced the work of the curators, including storage, classification, scanning and digitisation. In an exhibition area, members saw a variety of impressive insect specimens, including the Darwin's hawkmoth, which can uncoil its extremely long tongue to feed on nectar from a particular orchid, and golden beetles.
The visit continued into the Zoology area, with a presentation of the catfish collection and a tour of the tank room by Rupert Collins. There are more species of catfish than of birds, and the NHM has most of them. They were preserved initially in formalin but moved to 70% alcohol. The tank room contains many giant specimens, including a giant squid, the jaws of a great white shark, the coelacanth, known as a "living fossil," sunfish and angler fish.
The herbarium was not accessible, due to research work in progress, but the group was shown a number of specimens from different eras, showing the means of preservation and the information that is stored.

4. Dave Panchaud presented slides of "A Day on Staines Moor."

Dave showed pictures from an imaginary day on Staines Moor, starting at dawn and finishing at dusk, but with pictures taken on different days in different seasons. He showed the livestock (horses, cattle in the water), a variety of animal species and a few plants. His photographs included some butterflies (small tortoiseshell, gatekeeper, comma and small copper), mayflies, dragonflies, moth larvae and dung flies. The birds featured included the short-eared owl, which has become a highlight of the Moor, with more than 10 individuals, little egret, kestrel, common tern, kingfisher, stonechat, wheatear and goosander. Dave also showed poppies, marsh ragwort, the flowering rush and frosted ivy.

Peter Clifford

Wednesday 8th January Standing up for Woods and Trees A talk by Martin Boiling from the Woodland Trust about the importance of Woods and trees

Martin started by saying it took 5,500 trees to build HMS Victory in 1765. The UK has lost much tree cover due to the Industrial Revolution, wars and population growth, declining to 13% coverage. Hedgerows have declined by 100,000 miles since World War Two and the resulting loss of habitat.

In the Great Wat ¼ million acres of woodland was lost. Climate change is also impacting on nature. In the last 20 years 10% of the world's timber has been lost. The Committee on Climate Change calls for 30,000 hectares or 50 million trees to be planted per year. Last year only a third of that was planted.

Benefits of Trees
Trees absorb carbon dioxide and they reduce urban temperatures by more than 5 degrees. Trees provide food to lichens, fungi, insects, birds and animals. Trees soak up water, reducing flooding and reduce wind and soil erosion. Oak trees are very important and can provide a home to 2,500 creatures. Trees planted 3 or 4 deep can act as a wind break and improve soils and increase crop cereal yields. Trees are also good for the mental health of people.

The UK has substantial numbers of ancient trees and these have been mapped and so can help protect them from development. Since 1972 the Woodland Trust has planted 55 million trees and in the past decade has saved 1,172 woodlands and restored 3,4000 hectares of Ancient Woodland. Children have been encouraged to take part with school packs of trees supported by IKEA and Sainsbury's and one and half million saplings have been planted.

Protecting Woodland
Plant s act as indicators of Ancient Woodland dating back some 400 years and these include bluebells and wood anemones Ancient Woodlands have been harmed by the HS2 Railway construction and more would have been damaged if had gone fully ahead.

Conifer woodland are environmentally dead and so the Woodland Trust has worked with the Forestry Commission to remove them and replace with deciduous trees and allow nature to regenerate and 100,000 acres has now been restored. Horses are often used to remove the timber.

London Urban Forest Plan
It is aimed by the Mayor of London to plant 800,000 trees to increase tree cover by 10% and 430,000 trees have been planted so far.

The Northern Forest
This is a 25 year plan to plant 50,000,000 trees stretching from Liverpool to Hull along the M62, much of the land being old coalmine areas and nine million trees have been planted so far.

Helping Landowners and Finance
Lloyds Bank has provided support leading to more trees and hedgerows, ancient woodland restoration, flood prevention and trees provide shade for livestock.
What can you do?
Support the Woodland Trust, plant trees locally, protect trees and woods in gardens , parks and streets. You can order school and community tree packs.
What trees to grow
Size and shape are considerations. Alder to yew trees. Fruit trees are important for pollinators also crab apples, elder, hazel holly and also dog rose.

Langley Vale Wood near Epsom, Surrey
This was a farm of 641 acres of unproductive land, purchased by the Woodland Trust and is the largest of four First World War Centenary Woods. The wood has pockets of ancient woodland, diverse wildlife and flora, and views towards the North Downs. The former farm will be both a natural haven and a living memorial to those who died in the Great War. Langley Vale was used by the army in the First World War as a training ground and in 1915 General Kitchener inspected a parade of the London Brigade of the Royal Fusiliers. A marker stone and sculptures have been erected to commemorate the Great War. There is

also an oak sculpture of twisted trees like a cathedral, inspired by the desolate landscape battlefield paintings of John Nash.

Plantlife identified rare arable plants here. There is also butterfly conservation monitoring carried out monthly and has found a tenfold increase in butterflies. Bird conservation monitoring found 72 variety of birds, including Lapwings and Skylarks. There are nesting boxes for Barn Owls. There is a community orchard with 140 trees including various apple trees, including "Joybells", pears "Doyenne Du Comice", greengages and "Waterloo" cherry trees.

Martin showed a photo of his grandfather as a soldier in the Royal Artillery in that war standing by a field gun. There is a further memorial, this time to the Royal Navy in Jutland Grove commemorating the 1916 battle with wooden uprights naming the ships involved.

Other commemorative woods are being set up in Wales, Scotland and Northern Ireland. So far 160,000 trees have been planted with the assistance of volunteers.

School children have participated, in "the seed to tree project". Plastic tubes are used to protect saplings for the first 10 years from being eaten by deer and there is a move now to biodegradable tubes.

Martin concluded this interesting and well-illustrated talk with an invite to the Society to Visit Langley Vale for a conducted tour.

Questions
The Society looks after Nutty Wood, a small wood, with a 100 hawthorn saplings from the Woodland Trust which are now growing well.
How does the Woodland Trust water new trees with so many planted? Unfortunately we cannot water them and recently, in a dry period, lost 15%. Initially beech was planted but the roots spread out horizontally and died and so replaced them with oak which are doing well. In the Midlands it is a wet area and so only lose about 5% of saplings. Trees planted as a result of road works on motorway embankments can die early as the soil dries out. House builders plant trees on poor soil so again can die. In terms of planting density, can be 700 saplings per acre depending on soil conditions in agreement with the Forestry Commission. Mother Nature then takes over with natural regeneration within the planted trees.
With the orchard at Langley Vale we use an M25 rootstock, so the trees will grow tall.
The Woodland Trust is calling on the Government to ensure that more trees are planted on new housing developments.
With the tree diseases, Horse Chestnut can be hit by canker and the Leaf Miner. Ash Dieback is worse but some Ash trees are proving to be resistant, there is also the Emerald Ash Borer. Other tree diseases include the Oak Processionary Moth, Acute Oak Decline, Sweet Chestnut Blight and Asian Longhorn Beetle which can effect several types of tree. Honey fungus is also a killer of trees.
Trees can be protected by a Tree Preservation Order when meeting certain criteria and request by the public can be made to the Local Council for it to be applied. However as well as applying a TPO, the Local Authority can also withdraw the protection. The Woodland Trust is pressing for protection of Ancient Trees.

Wednesday 12th February Land life preserved in the London Clay Professor Margaret Collinson Professor of Plant Palaeobiology Department of Earth Sciences, Royal Holloway University of London.

Margaret gave a fascinating talk about some of the prehistoric life that can still be discovered in the clay underneath London and the Southeast coast. Margaret is the author of many books and papers and is

also a recipient of The Jongmans Medal, an award for the life achievements of an outstanding palaeobotanist or palynologist.

In addition, SNHS member Ken Cole and keen fossil collector brought an interesting selection of plant and fish teeth fossils collected from the London Clay including Warden Point on the Isle of Sheppey, Kent, laid out on a table for everyone to see.

The London Clay Formation is a marine geological formation c. 54-50 million years old which crops out in the southeast of England. The London Clay is well known for its fossil content. Plant fossils, especially seeds and fruits, are found in abundance and have been collected for almost 300 years. Some 350 named species of plant have been found, making the London Clay flora one of the world's most diverse for fossil seeds and fruits. The flora includes plant types found today in tropical forests of Asia and demonstrates the much warmer climate of the Eocene epoch, with plants such as palms being frequently encountered. Margaret's research interests are wide and include (amongst many others) the fate of plants in sediments, animal/plant interactions in the fossil record and the evolution and functional biology of ancient plants.

The talk concentrated on fossils from three areas, Walton-on-the-Naze, Essex, the Isle of Sheppey and Herne Bay, Kent in an area known as the London Basin, which is an elongated triangular sedimentary basin approx. 160 miles long which includes London and part of SE England and the North Sea. The Eocene is a geological epoch of about 54 million years ago and was a very warm period. A photo was shown of Margaret collecting fossils on the foreshore on the Isle of Sheppey, (although the area is not as good now for collecting as it used to be). There is a problem with pyrite permineralization which affects plants in clay where pyrite replaces the plant material. The London clay plant fossils are stored in silicone oil and so are stable and many have been donated to the Natural History Museum.

From the Isle of Sheppey, the London Clay fossils include "twig flora". Twig wood does not look the same as trunk wood and so identification is challenging. Leaf shoots were an extinct genus of conifer, *Araucari*tes. The twig flora showed herbaceous fern leaf stalks and so getting results showing ferns was quite common. Also Mangrove plants, *Rhizophoraceae*, a family of sub-tropical flowering plants. The hypocotyl is the stem of a germinating seedling. Fruit and seed flora was found in the London clay, nipa fruits of the nipa palm that grew in a mangrove ecosystem. So the early Eocene distribution of typical mangrove palms, nipa, in the UK occurs in the London Clay. A modern analogue would be Indonesian Mangroves with nipa.

On the Isle of Sheppey- fruit and seed flora found included S*apindaceae*, the soapberry family of flowering plants, the *Annonacea*e a family of flowering plants including trees and shrubs*, Tapisciaceae* is a family of flowering plants, the I*cacinaceae* is a family of flowering plants, trees, shrubs and lianas of the tropics and *the Menispermaceae* is a family of flowering plants.

Mammals
Dawn Horse, *Hyracotherium leporinum*.
This horse, now extinct, was smaller than the present day horse and fossils found in the London clay. The cranium and teeth were found at Herne Bay and lower teeth at Sheppey. It is totally different from a modern horse.

Skull of a small mammal, *Philopus vulpiceps* from the London Clay near Harwich. Platychoenops richardiiis, (Sheppey), a close relative to Plesiadapis, a primitive relative of primates, showing the jawbone and teeth. Margarets favourite specimen from Sheppey is the *Plesiadapis.*

Bird Fossils
These are two million years older than Sheppey. Zygodactylidae is the family of extinct birds and are early relatives of song birds and arboreal birds. The first fossil bird to be described was in 1825. Some remains have been found at Sheppey but the majority come from Walton-on -the-Naze including *Masillaraptorid*ae an extinct family of falcon-like birds. Also an early form of owls, (*Strigiforme*s), day flying raptors with eyes not as large as modern night flying owls.

On Sheppey were found *Coraciform*e bird fossils, but leg bones were incomplete so has not been named yet. P*haethoniformes* are an early relative of Tropical Birds, information on these were originally published in 1899. The modern birds are plunge-diving, fish-eating. The fossils suggest a more aquatic bird foraging below the sea. The *Pelagornithida*e were bony toothed birds. A slide was shown of a modern Gannet.

To conclude, the London Clay contains a rich , diverse and historically important flora, bird and some mammal fossils of the Eocene Age. There have been found a huge number of twigs, thousands of fruits and seeds. This area was once a coastal mangrove, a paratropical rainforest. There have been very few mammal specimens, the few named species were ground dwelling. There are at least 7 major bird and arboreal groups. Arboreal marine gliding birds and Day flying raptors and these are the early relatives of owls and falcons, song birds and bony toothed birds.
A very interesting talk with an additional display of fossils.

Book
Fossil Plants of the London Clay - Margaret Collinson

Saturday March 1st Spring Social Evening including Buffet, Raffle & Illustrated Talk by Dr David Jones, of the Natural History Museum, London entitled "From Primordial Soups to Primates in Suits – the Evolution of all Life on Earth".

David started by asking us the question 'What is Life'? The characteristics of living organisms are that they are composed of cells, they have growth and development, undergo metabolism, are homeostatic that is they have a stable internal environment act to stimuli and adapt to changes in the environment and also reproduce.

The are different theories to how and when life began. Life may have begun a few hundred million years after the formation of the earth. The early presence of water from received from impacts from comets and asteroids gave the necessities for life. Hypothesis include beginnings in geothermal muddy pools on land and around deep sea geothermal vents. The oldest fossils of single celled organisms in Australia date from 3.5 billion years ago, which were formed in hot freshwater springs in a volcanic region on land. The atmosphere at this time was made up methane, ammonia, and nitrogen. Carbon dioxide and water vapour released was from intense volcanic activity and with the release of water vapour came the formation of the oceans. There was very little oxygen in the atmosphere at this time. Some bacteria around this time were using carbon dioxide and sunlight to obtain energy but did not release oxygen. It took another billion years before cyanobacteria about 2.5 billion years ago, evolved that released oxygen as a by-product. Oxygen built up in the atmosphere and seas in time causing dissolve iron to precipitate out of the ocean as rust creating banded iron formations. This is known as the Great Oxidation Event. A new and dominant form of photosynthesis was created.

David made a reference to the influenza virus that spread at the end of the First World War, known as Spanish Flu and asked the question is a virus parasite a living cell. Viruses exist in the form of viral particles consisting of genetic material that is long molecules of DNA or RNA. It is controversial whether viruses are a form of life or an organic structure that interacts with living organisms and Dr Jones took the view they are not a form of life because they cannot replicate their genetic material independently but need a host.

David asked 'how many identified and described species are there on Earth today'? Since many species have not been described this would be an underestimate Dr Jones gave some examples. There are 1.05 million insects and about 400,000 described species of Beetle. Long lists of taxonomic groups were shown and to describe all the known species during this talk, he would have to state 416 species per second! *Andrena* is a genus of Bee and there are 1600 species of bee it is one of the largest genera of animals. A picture was shown of *Andrena scotica*, the chocolate mining bee.
The earth has seen 5 mass extinction events and graphs were shown illustrating this showing that 97% of all species of the 5 billion species that ever lived have become extinct.

Alternative Views of Life on Earth
There are alternative views of how life began on earth. One is that the earth was created on the 22 October 4004BC James Ussher, (1581 – 1656), Primate of All Ireland, a senior churchman calculated that, looking at the Adam and Eve story in the Bible, God created the Earth on 22 October 4004 BC. In to the present day Ken Ham a Creationist at the Institute of Creation Research included a theory that humans domesticated dinosaurs and that Noah took 8000 animals into the Ark during the Great Flood.
Anaximander, (610 – 546 BC) a Greek Philosopher theorised that people arose from the mud, that they developed from fish. Aristotle and Empedocles looked at fossils and postulated where they originated from. Georges- Louis Leclerc, in 1776 suggested that species came from a common ancestor.

Charles Darwin produced an Evolution Tree, shown from a notebook of 1837, transmutation. Then his study explained in "the Origin of Species". We now know that all life stems from a single origin, that we are all related. Before Darwin, the existing scientific thought was that there was evolution but it was not known how it worked. Darwin and Alfred Russel Wallace came up with the theory of evolution through Natural Selection. Evolution is a random process. Adaption leads to greater survival with all species being on a random walk to extinction by environmental pressures but may continue by evolving into new species. All species have bits of the same DNA.

!3.8 billion years ago, the Big Bang
4.5 ,, ,, ,, the Earth formed
4.4 ,, ,, ,, first water formed
4.2 ,, ,, ,, prebiotic world
4.00 ,, ,, ,, RNA world
2.7 ,, ,, ,, DNA world
3.7 ,, ,, ,, Life evolved
3.5 ,, ,, ,, photosynthesis
1.2 ,, ,, ,, first multi-cellular organisms
65 million years ago – Dinosaurs
6 ,, ,, ,, Hominins

Picture were shown of *Stromatoli*tes in Shark Bay , Australia. These are the oldest fossils on Earth, dating back 3 billion years and were the dominant life-form for 2 billion years. The Canadian Greenstone Belt with trace fossils and spans across Ontario and is 2,800 million years old. *Prochlorococ*cus a small unicellular *cyanobact*eria marine bacterium and is one of the most abundant photosynthetic organisms.

All living organism fall into one of two groups which are p*rokaryote*s or *eukaryote*s the former being single celled including bacteria and the latter multicellular and include plants and animals.

About 500 million years ago the land was colonised with fish-like species. Pictures were shown of a sugar glider and a flying squirrel – they look alike but are not the same species. Formerly they were thought to be but molecular biology have corrected this. So convergent evolution presented a problem for biologists until the development of molecular biology. *Arthropod*s including spiders, insects, and centipedes emerged on land which are invertebrates with an exoskeleton.

Vertebrates beginning with sharks, ray finned fish and amphibians the first to make their way out onto land from these beginnings came crocodiles, dinosaurs, rodents, rabbits and primates. Dinosaurs became extinct apart from a branch evolved into birds.

With the mass extinction that led disappearance of the dinosaurs came the rapid evolution of mammals and to primates. Old world monkeys, gibbons, orangutans, gorillas, chimpanzees and into Hominins. With the divergence of the *Hominin*s lineage came the ability to walk upright and the use of hands for tools with the ability to carry spears to hunt. Hunting caused change, leading to a bigger brain with diversification of our ancestors.

Homo Australopithecus
H. habitus
H. erectus
H. sapiens
Neanderthals
Modern Humans

A very interesting and well- illustrated talk.

Questions
Some of the questions raised included
Where did water develop. Research is looking into the role of planets being bombarded by asteroids.
It took 4 billion years for intelligent life to develop.
Life may have come from an asteroid and not from the oceans. Also a theory that a flying saucer flew over the earth, flushed their toilet and led to life on earth.
It is possible the road to extinction is getting faster. Homo sapiens will eventually become extinct unless they move to another planet, possibly Mars.
All life on Earth has some common DNA but gets less and less as evolution takes place.
Stromatolites are living fossils and the oldest living lifeforms on the Earth
Does successful adaptation slow down evolution. Species are generally stable and but if the environment changes so the genetic makeup will change "punctuated equilibrium", more species adapt when things change.

A very pleasant evening and thanks to all those who provided a superb buffet.

Wednesday 12th March The History and Wildlife of the River Crane Corridor. Rob Gray of The Friends of The River Crane Environment spoke to us about the history and Wildlife of the River Crane Corridor. This write up will appear in the next newsletter.

What to look out for during the early spring

The cold, rain and windy weather will probably persist for a while as we approach the early Spring. March is the month when bird song becomes more noticeable including the Cuckoo. Resident birds like the Blackbird and Robin should be starting their brood, while House Martins, Sand Martins and Willow Warblers create their territories. Later in Spring Adders and Grass Snakes will be coming out of hibernation. Flowers now come into their own including Cowslips, Primulas, Dog Violets, Wood Anemones, Daffodils and Bluebells. Where there are flowers you find insects in search of nectar including Bumble Bees and Queen Wasps fresh from hibernation. On sunny days Butterflies come out including the Orange Tip, Peacock, Brimstone and Holly Blue. Dragonflies and Damselflies should start to be seen. Badgers, Hedgehogs and Moles are about as well as Frogs and Newts. Newts will be breeding, and may be seen at night if a torch is shone into a pond. Broad leaved woodlands are worth a visit as they burst out and also to see the variety of wild flowers, the blossom of the Hawthorn, Cherry and Apple trees. Grey Squirrels may be seen in the branches building their dreys with twigs.

WILDLIFE RECORDING IN SPELTHORNE

Martin is no longer receiving wildlife records. Richard Robinson has now taken on that role and the society would still like to receive any records that our members have of the wildlife they see or find within the Borough to add to the Societies database. Also any records that are made on Society visits to other areas, these records are passed to the local Natural History Society or to the Local County Recorders as appropriate.

All records are wanted, but they need to have a minimum of information for them to be valuable.
WHO - Who made the original observation and the name of the person who made the identification if different from the original observer.
WHAT - An unambiguous name for the specimen, preferably the scientific binomial if possible.
WHERE - A reasonably accurate location. preferably as a minimum 6 figure map reference.
WHEN - The date of the original observation.
Any other information that seems appropriate such as the Sex, Stage, i.e. larvae, Quantity etc., if appropriate, can be added. A spreadsheet can be provided for those that find them useful, phone and it can be emailed to you.

Please pass your records to Richard Robinson in whatever format is convenient to yourself.
Email : recorder@snhsociety.org.uk if possible, Royal Mail or just a phone call. More information can found on https://www.snhsociety.org.uk/recording/. Thank you

Ash Link Local Nature Reserve

Ash Link is now formally recognised as a Local Nature Reserve. (Local Nature Reserves are a statutory designation made under Section 21 of the National Parks and Access to the Countryside Act 1949).

Work Group

The Society's nature conservation working group "The Friends of Ash Link Local Nature Reserve" (FOAL) has continued to meet and carry out works including tree planting and pond clearance. A new direction sign has been erected at the corner of Nutty Lane and Charlton Lane to replace the old dilapidated sign.

The next newsletter will be out during the Summer