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Fly agaric, *Calocera viscosa* (yellow staghorn and Kelly identifying fungi in the field.
Photos Ian Flack,



A SCIENCE AND EDUCATION HUB FROM THE MOLECULAR TO THE COSMIC SCALE.

Welcome to the October edition of the Bayfordbury newsletter.

As autumn starts to approach we are seeing amazing colour changes on site. Reds and golds, yellows and oranges. As daylength changes this produces the signal for leaf senescence, along with lower temperatures. Chlorophyll starts to degrade allowing other pigments to show through, carotenoids and Anthocyanin giving the yellows and red colours of autumn leaves. Fruit is ripening, in particular the sloes, grapes and crab apples.

Below we cover what has been going on over the last month. As always, visitors are welcome to the site, so do come and visit and enjoy our Bayfordbury estate.

Community Engagement.

The bat group are still being called out to rescue bats and using the flight cage to get those injured in the summer and this years hand reared young out into the wild before temperatures drop. Low temperatures mean low insect activity and signal bats to go into a state of torpor (not strictly hibernation). We have had a training session late September for new bat carers which ran well, organised and run by Dr Chantal Helm.

The Friends of the Clinton Baker pinetum had a fungal foray in the pinetum on the 15th October. There were 20 participants and some interesting specimens including fly agaric and very pretty parasols. Led by Kerry Robinson, just over 40 specimens were found. This is lower than previous years, however, it is still early in the season and the ground has been quite dry. Woodlands would not exist without fungi and our Bayfordbury woodlands are good places to see wood being rotted by these amazing organisms, removing the lignin and cellulose so invertebrates can access the wood and break it down further.



Bracket fungi and parasols - both breaking down wood to make palatable for invertebrates.





Clinton Baker Pinetum news

Work parties are every Wednesday and some Saturdays. Volunteers meet in the carpark at 9.30 a.m. Bring a packed lunch and water!

This time of year a lot of the work is clearing away fallen leaves, wood and ensuring the paths are accessible. For more information on work parties or becoming a Friend, see the web link below.

<http://www.clintonbakerpinetum.org.uk/>

The wonderful group of volunteers 'Eric's mob' have been on site assisting with conservation work twice recently - including the 18th October where scrub and paths were cleared both in the pinetum and scalloping the lower path in Sailors grove (adjacent). There is a lot of scrub incursion here and its a full time job to keep it cut back.



eDNA

This is a time for consolidation before we start new projects.

The paper on bat droppings and food items is going well and British Island Bats are looking to publish it.

Referencing the late Trevor James's Beetles of Hertfordshire book, all 8 beetles from our bat poop study are in his book. Adam Hillier reports that "all 7 species level identifications are his book. Even better, one of them he had noted from Ashwell matched with an identification from our Natterers bat sample from Ashwell Church. How cool is that !"

A reminder the hub would provide students with some excellent data if interested in doing a project on eDNA or participating in the Malaise trapping and samples.. Contact us if you have anyone interested.

BIOSCAN continues with the Malaise trap going up next week (25th) if the weather is OK. The Material Transfer Agreement (MTA) has been agreed with UH legal team and just awaiting signatures before samples from April to this month can go to Sanger.. Looking forward to getting Bayfordbury's results back and putting into context with the rest of the UK.



Plenty to harvest at this time of year.

Crab apples - Bayfordbury grapes and sloe berries. Sloes are traditionally cropped after the first frost - however, they do well if popped in to the freezer overnight. Sloe gin is a nice Christmas present!



@HertsGEP



@uhoutdoors



Conservation

The temperatures are starting to drop now and the evenings getting darker earlier.

Recent sightings include, bull finches, redwings - about thirty, and field fares which we expect to see at this time of year. On the 17th October a willow emerald was sighted by the hide beside the lake and a Merveille de Jour moth. - photos above.

The field camera near the apiary picked up a polecat - they are periodically seen on site but most likely to be just passing through. Our badgers in the pinetum have bred again this years but we are uncertain about the sett near the glasshouses - although they have been active near the hives. Bat and bee activity is dropping off as temperatures fall and with badgers seen nearby we will need to cage the hives once bee activity ceases for the winter.

Grapes have been collected by those who like to forage, there are plenty of crab apples still. See previous page for photos.

Research Projects

Undergraduate projects have been underway. Kirsty Lockwood is comparing arthropod species richness and abundance on land types paid by Countryside stewardship Schemes. These schemes pay farmers to allocate land to promote biodiversity.

To investigate the effectiveness of these schemes Kirsty collects sweep net samples of arthropods from 3 land types: grasslands, wildflower meadows and wheat fields on a farm that is incentivised by Countryside Stewardship schemes. Comparing the diversity of species from land types paid for by Countryside stewardship schemes (grasslands and wildflower meadows) with regular farming land (wheat fields) can provide data to farmers and the government on how affective these schemes are at increasing biodiversity.

Lucy Morgan is working on newts - mats have been laid out all over the site with different scent markings. This is being carried out with the Herts ARG (Amphibians and Reptile Group).

Photo on the top left show Kirst and Lucy at the end of a days field work. An advantage of ecological projects is that the data is all in by November and it takes a lot of stress out of their final years studies.

Kirsty and Lucy after a day in the field. Below - pooter of one of Kirsty's sweep net samples.

At the very top - clematis or old mans beard a common sight here. Its a vine like plant found in the south of England - also known as travellers joy.





Upcoming events

Next **Biodiversity walk**
with Dr Alla Mashanova
Contact
a.mashanova@herts.ac

Outdoor Education:
Field Day 25th November.

Friends of the Pinetum
work parties on
Wednesdays. Meet at 9.30
a.m. Come for as long as
you can - usually finish c.
3.30 p.m. Don't forget to
bring plenty of water.
Fungi Walk 15th October.

Physic garden
BIG DIG: 15th November
From 1.30 p.m. meet at the
Bayfordbury car park.
Be prepared to do some
digging!
How to get here:
Address: Lower Hatfield
Rd, Bayfordbury, Hertford
SG13 8LD
From the Forum:
Buses run approximately
every hour. **Uno 341.**

Timetable:

[https://www.unobus.info/
services/hertfordshire/341
-641/341/](https://www.unobus.info/services/hertfordshire/341-641/341/)



Full moon at Bayfordbury. David Campbell on Bayfordbury observatory Instagram

Astronomy

Open evenings have started, tickets are available online about a month in advance.

Community visits can also be booked here:

<https://www.herts.ac.uk/bayfordbury/bayfordbury-observatory/visit-bayfordbury-observatory/public-open-evenings>

We are hoping to have astrophysicists and others occupying the top floor offices in the near future. Providing quiet places to work.

Whats happening in the skies?

There are three key events this October.

1. The celestial teapot. Low in the sky close to Sagittarius is the teapot asterism. It is very low on the southern horizon best seen just after sunset.
2. October 22nd - look for craters on the moon. When the moon is in its first quarter you should be able to make out craters - even with binoculars.
3. Look out for the International Space Station (ISS). A visit to NASAs web site 'spot the station' will give you when visible at different locations.

This month the gas giants Saturn and Jupiter make a return to the evening sky. Both are visible towards the south-east after sunset. These planets can be seen with a pair of binoculars or a telescope, and if you are lucky you might be able to make out some of their moons!

On meteor showers - Draconids occurred in early October. Through the rest of October and into November the Orionids which peak on the 21st. an average of 25 meteors per hour is expected.

A third the Taurids start in the Northern Hemisphere on 20 October and will be active until 10 December, peaking 12-13 November. This shower however has a low hourly rate and very slow meteors

Orionid shower in
October.



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