The Green Forest Hoverfly Surveys

Results and future plans

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New Forest Biodiversity Conference

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Photo: Paul Stevens

Project Website

Background

- **Green Forest Hoverfly** *Caliprobola speciosa* (Rossi, 1790)
- specialist of ancient woodlands
- occurs in just 2 locations in UK, New Forest and Windsor Forest
- heavily dependent upon rotten Beech stumps for its larval habitat
- anecdotal evidence suggests that *C. speciosa* may have declined in recent years
- limited data (c. 150 records total from HRS/NBN)

The Green Forest Hoverfly Hunt

- a team of volunteer (mostly amateur) naturalists searching for *Caliprobola speciosa* in the New Forest to help better understand its status.

- Despite extensive searching in 2022 we only found a single record (by Colin Easton), albeit at a new site and with only 4 other records that year

- Online mapping allowed us to gather locations and build a database of potential trees for further investigation

Surveys

- prioritisation map (inc. existing records, suitable trees, openness, ancient woodland)
- surveys: searches of 1km grid squares, ‘stump vigils’ and additional scoping
- a map was updated and used to track squares visited, locate ‘priority’ trees (on mobile) and any successes – all could see
- suggested targetted actions and adapted approach (Whatsapp)

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Green Forest Hoverfly Hunt

caliprobola.maploom.com/main

LAYERS

Grid info
SU3305
2023 Visits: **18**
2023 Hours: **156**
2023 Status: **c. speciosa seen**
Priority: **1**
2022 Visits: **2**

Comments: Stump vigils by SL & NB Seen by SL&NB 20/05/23 at tree 4

Tree info
Denny Wood
Priority Tree Number: **112**
Max Males: **1**
Max Females: **0**
Max Adults: **1**
Total: **2**

Coordinates BNG: **433688 105964**
Location of a 2022 find, in the heart of Cathedral beeches, a historic site for C.s-5 seen 2022. Also rot hole home to Pocota personata. Photo: S.Laycock

Historical records (HRS):
Record of 5 Adult **David Shute** on 14 May 2022

- Records
  - Caliprobola speciosa sightings by tree during 2023
  - **Priority Beech Trees for 2023**
  - Caliprobola speciosa sightings prior to Nov. 2021 (HRS)
  - Caliprobola speciosa sightings NBN
  - Surveyor effort 2023 (hrs)
- Prioritisation
  - Visits in 2023
  - Search Priority
  - Canopy Density
  - Ancient and Ornamental Woodland

Priority Beech Trees for 2023

New Forest 1km squares

New Forest National Park Area

powered by Maploom

Mapping Platform

with tree info

Green Forest Hoverfly Hunt

Results

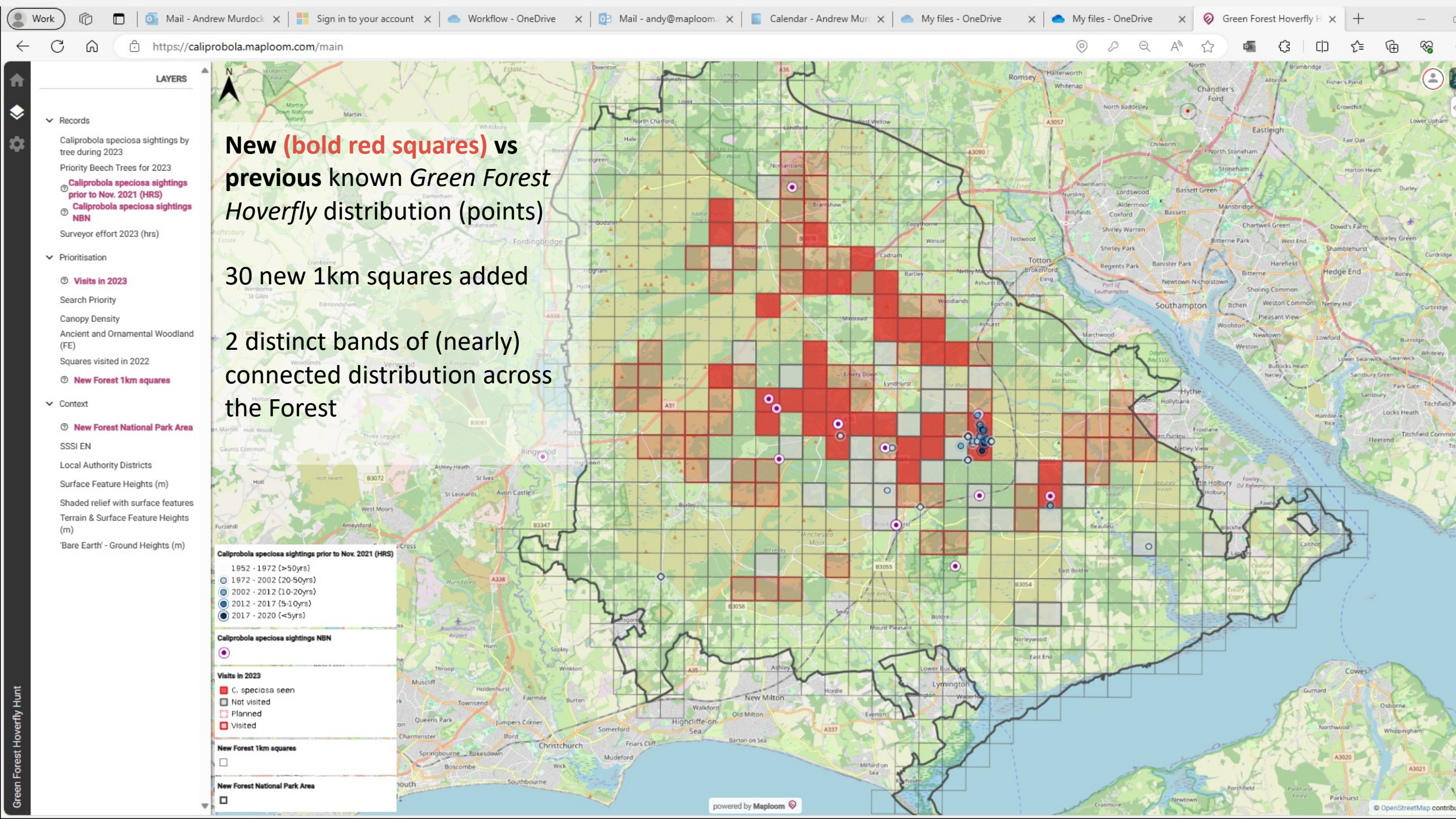
- much better than expected
- 108 unique Green Forest Hoverfly records
- 7 records from outside the team
- 1 at Windsor Forest (Paul Brock)

Estimate 94 unique individuals seen in NF:

- Male 82
- Female 7
- Adult 5

Flight period: 13th May - 19th June

1,100 hours of volunteer time


New (bold red squares) vs previous known Green Forest Hoverfly distribution (points)
30 new 1km squares added
2 distinct bands of (nearly) connected distribution across the Forest
LAYERS
Records
Caliprobola speciosa sightings by tree during 2023
Priority Beech Trees for 2023
Caliprobola speciosa sightings prior to Nov. 2021 (HRS)
Caliprobola speciosa sightings NBN
Surveyor effort 2023 (hrs)
Prioritisation
Visits in 2023
Search Priority
Canopy Density
Ancient and Ornamental Woodland (FE)
Squares visited in 2022
New Forest 1km squares
Context
New Forest National Park Area
SSSI EN
Local Authority Districts
Surface Feature Heights (m)
Shaded relief with surface features
Terrain & Surface Feature Heights (m)
'Bare Earth' - Ground Heights (m)
Caliprobola speciosa sightings prior to Nov. 2021 (HRS)
1952 - 1972 (>50yrs)
1972 - 2002 (20-50yrs)
2002 - 2012 (10-20yrs)
2012 - 2017 (5-10yrs)
2017 - 2020 (<5yrs)
Caliprobola speciosa sightings NBN
Visits in 2023
C. speciosa seen
Not visited
Planned
Visited
New Forest 1km squares
New Forest National Park Area
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Green Forest Hoverfly Hunt

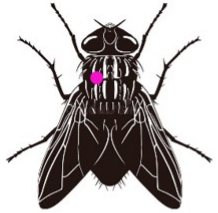
Conclusions

- The Green Forest Hoverfly is more widespread and numerous than we thought and probably under-recorded
- It is part of a larger assemblage of insects and fungi that rely on decaying beech
- We expected to find it at other sites but couldn’t and are not sure why at the moment
- Recent tree falls should ensure good supply of fresh decaying timber for next 50 years or so
- Replacement with new young beech is less certain
- Longer term prognosis for beech is not so good with more climate change induced droughts and beech decline predicted
- No obvious areas for it to move to

Plans for 2024

- find new sites
- mark-release-recapture pilot study
- detailed habitat characterization
- experiments with holly management with FE
- DNA barcoding of Green Forest Hoverfly (via ‘Darwin Tree of Life’). *How closely related is UK population to continental ones and potential genetic bottleneck?*

- evaluation of long-term supply of beech, recruitment of new saplings / grazing impacts
- temperature and the timing of emergence / appearance of Green Forest Hoverflies



***Episyrphus balteatus* 1**
male

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08/12/2023

With thanks to

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Hoverfly Recording Scheme

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Southampton Natural History Society
Founded 1907

Wild New Forest

Get involved

https://caliprobola.maploom.com/info

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