Green Forest Hoverfly Hunt

Searching for Caliprobola in the New Forest

Project Website

https://caliprobola.maploom.com/info

BENHS Exhibition

Holborn, London

4th November, 2023

Photo: Steve Laycock

Green Forest Hoverfly *Caliprobola speciosa* (Rossi, 1790)

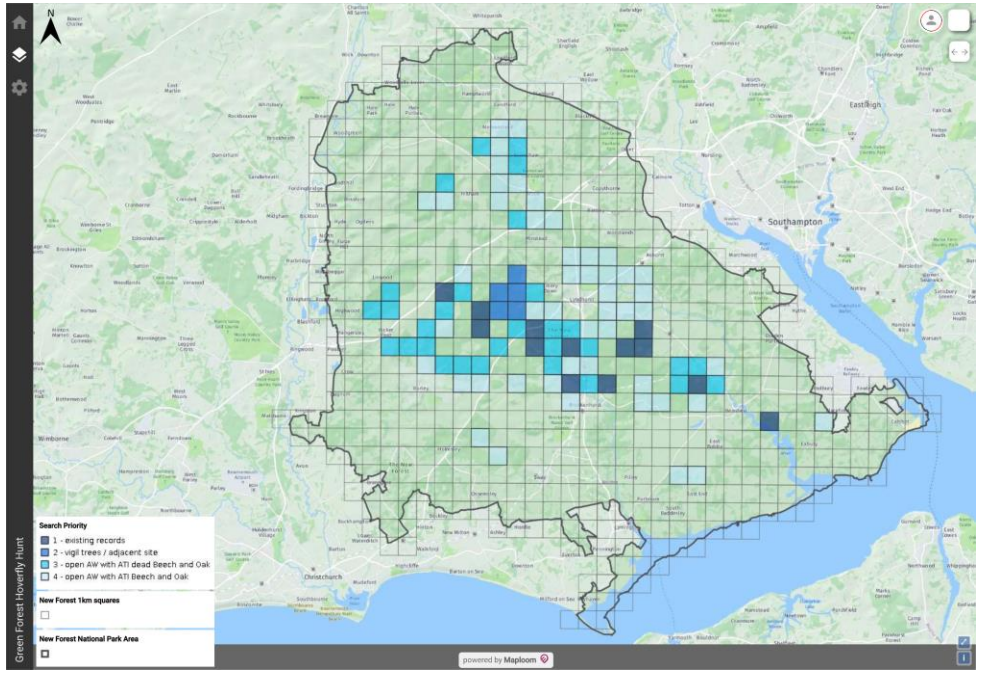
Photos: Tony Short

Background

- specialist of ancient woodlands
- occurs in New Forest and Windsor Forest only
- heavily dependent upon Beech stumps for its larval habitat in GB
- anecdotal evidence suggests that *C. speciosa* may have declined in recent years
- limited data (c. 150 records total from HRS/NBN)
- a team of volunteer (mostly amateur) naturalists are searching for *C. speciosa* in the New Forest to help better understand its status.

Methodology

- Scoping visits in 2022 identified suitable habitats
- Online mapping system helped target effort with prioritisation of 1km squares (scored 1-4), and priority trees
- Surveys: searches of the grid squares, ‘stump vigils’ and additional scoping
- Map used to track squares visited, locate ‘priority’ trees (on mobile) and any successes



Mapping Platform

with tree info

LAYERS

Grid info

SU2606

2023 Visits: **20**

2023 Hours: **46**

2023 Status: **c. speciosa seen**

Priority: **3**

2022 Visits: **0**

Comments: Area and specific trees identified by CS on a recce after Burley Meeting. Very promising area from a recce by APM. Revist where Male Cs found by APM at tree 26 17/05/23. Cs seen on multiple occasions at this site over the following weeks SL&NB, NJ (2m), 17/05/23 tree26, PS and AS&TS (3 inc m&f - tree 30) 18/05/23, SL&NB 1m tree26, IW&BT 1m Tree26 20/05/23, TS&AS 7 (Trees 26 and 30) 22/05/23, TS&AS Tree89. APM 1 male at each tree 26,30,89 28/05/23. HS 2m trees 30 and 89. 31/05/23. TS&AS nil retun 08/06/23

Tree info

Bolderwood / Knightwood Inclosure

Priority Tree Number: **26**

Max Males: **2**

Max Females: **0**

Max Adults: **0**

Total: **2**

Coordinates BNG:

Priority Beech Trees for 2023

New Forest 1km squares

New Forest National Park Area

powered by Maploom

Green Forest Hoverfly Hunt

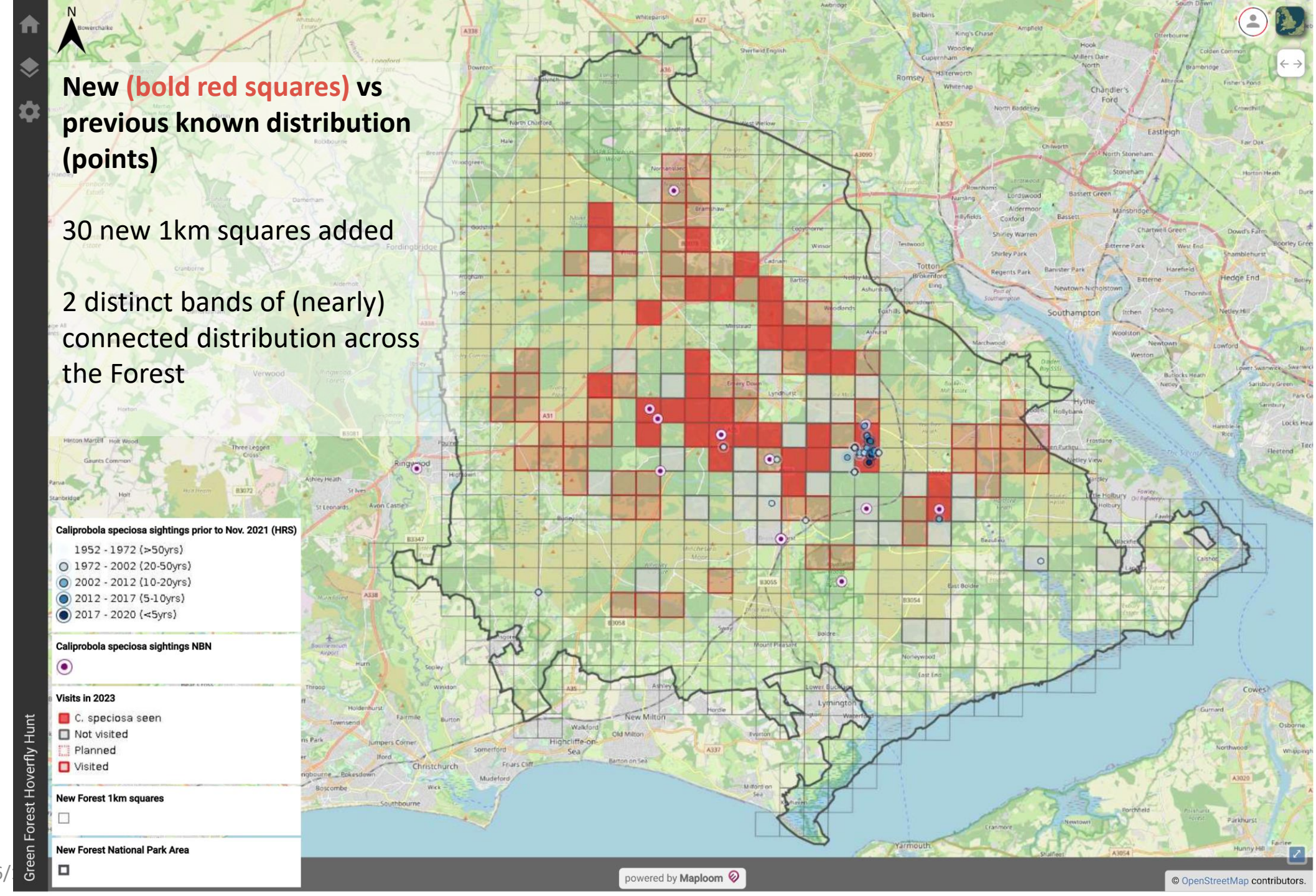
Results

- Much better than expected
- 108 unique *Caliprobola speciosa* records
- 7 records from outside the team
- 1 outside the New Forest: at Windsor Forest (Paul Brock)

Estimate 94 unique individuals seen in NF:

- Male 82
- Female 7
- Adult 5

Flight period: 13th May - 19th June


New (bold red squares) vs previous known distribution (points)
30 new 1km squares added
2 distinct bands of (nearly) connected distribution across the Forest
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
Green Forest Hoverfly Hunt
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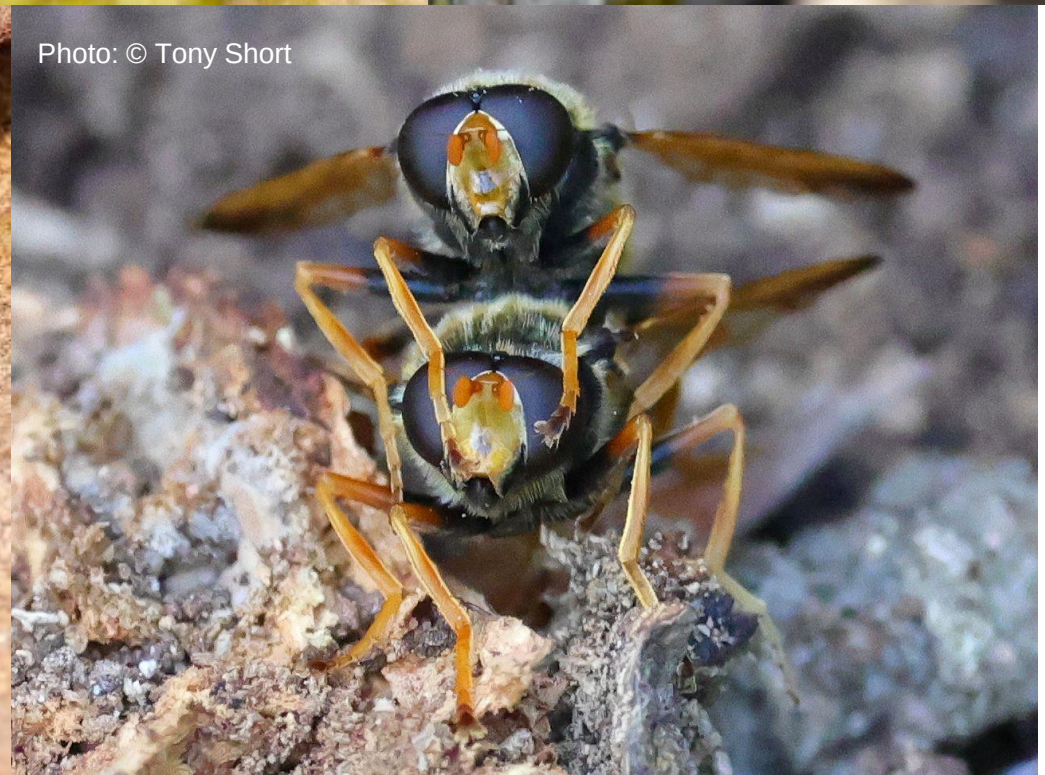

Males

Territorial battles

Legs dangled in flight

Females

- Mating observed on 2 occasions
- Females were far less commonly observed
- At least one seen entering the debris at the base of beech tree stump; presumably looking for egg-laying sites

Photo: © Mike. Creighton

Habitat - Nature of sites

- Beech stumps (only 1 at Oak)
- only 1 flower visit recorded (hawthorn)*
- sunny situations
- well rotted stumps of old / veteran trees with plenty of debris
- snapped trunk, leaving stump in ground *vs* *toppled with root plate attached*
- even a tiny amount of standing stump could hold *C. speciosa*
- surrounding vegetation usually present

* From outside the team

Typical stumps

Photo: © Andy Murdock

Photo: © Tony Short

Photo: © Colin Easton

Photo: © Colin Easton

Photos © Andy Murdock

Microclimate

Partial sunlight at base of tree with *C. speciosa* present, Eyeworth wood

Habitat management

- Holly / bracken
- Potential to expose more veteran beech stumps to sunlight
- Possible negative impacts on moisture and other species requirements
- Plant replacement trees on the northern side of standing stumps

Other notable hoverflies seen

40 species, 406 records in total

Myolepta dubia
(Photo: Andy Murdock)

Pocota personata
(Photo: Clare Seymour)

Psilota anthracina
(Photo: Paul Stevens)

Mallota cimbiciformis
(Photo: Clare Seymour)

Microdon analis
(Photo: Russell Wynn)

Conclusions

- *C. speciosa* is more widespread and numerous than we thought
- Plenty of suitable habitat in the ancient woodland
- Recent 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 predicted
- In the UK that could be a problem for *C. speciosa*
- More data is needed

Next steps

- More work planned for 2024 where we wish to explore:
  - new sites in the New Forest and potential for surveys in Windsor Forest
  - temperature and the timing of emergence / appearance of *C. speciosa*
  - detailed habitat characterisation
  - evaluation of long-term supply of beech, recruitment of new saplings / grazing impacts
  - experiments with holly management
  - DNA barcoding of *C. speciosa* (‘Darwin Tree of Life’). How closely related is UK population to continental ones and potential genetic bottleneck?
  - larval work – build on the work of Rotheray (1993) and Dussaix (2013) and potential for use of lagoons for conservation.
  - surveyor data entry modules for easier recording

Our thanks to

maploom

BRITISH ENTOMOLOGICAL & NATURAL HISTORY SOCIETY

Forestry England

WOODLAND TRUST

Wild New Forest

The team

Online talk: 8pm 22nd November, 2023

The Green Forest Hoverfly Hunt

Our ongoing search for Caliprobola speciosa in the New Forest

Join online for free: https://meet.google.com/hyx-svaj-gqc

Photo: Robin Somes

https://caliprobola.maploom.com/info