Hoverfly Newsletter

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Copy for **Hoverfly Newsletter No. 80** (which is expected to be issued with the Autumn 2026 Dipterists Forum Bulletin) should be sent to me: David Iliff, **Green Willows, Station Road, Woodmancote, Cheltenham, Glos, GL52 9HN, (telephone 01242 674398), email: davidiliff@talk21.com**, to reach me by 20th June 2026.. My thanks to all contributors, and also to Martin Matthews for his meticulous proof-reading of the text. The hoverfly illustrated at the top right of this page is a male *Cheilosia grossa.*

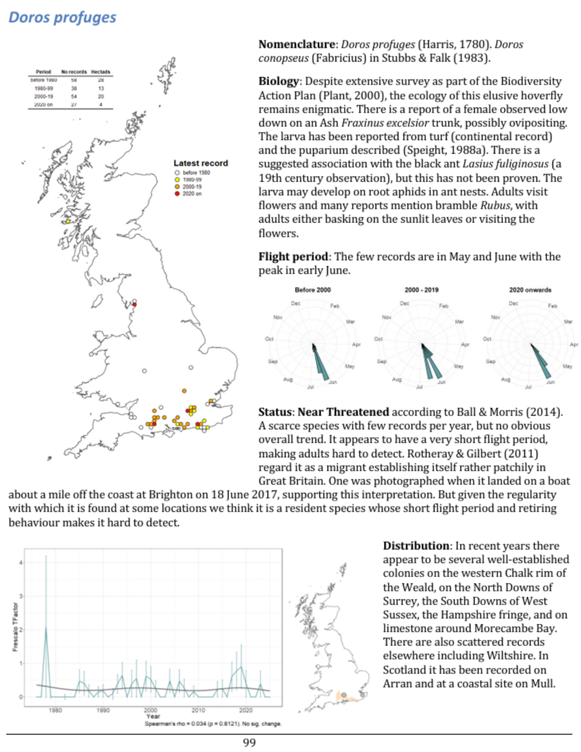
HOVERFLY RECORDING SCHEME UPDATE: Spring 2026

Stuart Ball, Roger Morris, Joan Childs, Ellie Rotheray and Geoff Wilkinson

Progress report

In the last update, we announced that there would be a new Provisional Atlas to celebrate the 50th anniversary of the Hoverfly Recording Scheme. In the course of autumn 2025 Stuart and Roger did the necessary groundwork and by Dipterists Day there was a draft that could be passed on to the Biological Records Centre for review and evaluation for printing costs.

At the moment, the document comprises 309 pages, with each species covered on a separate page; it will probably be closer to 320 when topped and tailed, however. Whilst we hope to produce a 'limited edition' hard copy, the main way it will be distributed is as a PDF on various websites such as those of Dipterists Forum and the HRS. When we discussed the idea with Martin Harvey at CEH, it was mooted that perhaps a pre-publication offer could be created in order to assess likely demand for a hard copy. It won't be cheap, given its size and the costs of printing and distribution, so we anticipate that most people will go for the PDF. We will make announcements on the Facebook page and on various websites once any decision has been made.



Doros profuges

Period	No records	Hectads
before 1980	58	28
1980-99	38	13
2000-19	54	20
2020 on	27	4

Nomenclature: *Doros profuges* (Harris, 1780). *Doros conopseus* (Fabricius) in Stubbs & Falk (1983).

Biology: Despite extensive survey as part of the Biodiversity Action Plan (Plant, 2000), the ecology of this elusive hoverfly remains enigmatic. There is a report of a female observed low down on an Ash *Fraxinus excelsior* trunk, possibly ovipositing. The larva has been reported from turf (continental record) and the puparium described (Speight, 1988a). There is a suggested association with the black ant *Lasius fuliginosus* (a 19th century observation), but this has not been proven. The larva may develop on root aphids in ant nests. Adults visit flowers and many reports mention bramble *Rubus*, with adults either basking on the sunlit leaves or visiting the flowers.

Flight period: The few records are in May and June with the peak in early June.

Status: **Near Threatened** according to Ball & Morris (2014). A scarce species with few records per year, but no obvious overall trend. It appears to have a very short flight period, making adults hard to detect. Rotheray & Gilbert (2011) regard it as a migrant establishing itself rather patchily in Great Britain. One was photographed when it landed on a boat about a mile off the coast at Brighton on 18 June 2017, supporting this interpretation. But given the regularity with which it is found at some locations we think it is a resident species whose short flight period and retiring behaviour makes it hard to detect.

Distribution: In recent years there appear to be several well-established colonies on the western Chalk rim of the Weald, on the North Downs of Surrey, the South Downs of West Sussex, the Hampshire fringe, and on limestone around Morecambe Bay. There are also scattered records elsewhere including Wiltshire. In Scotland it has been recorded on Arran and at a coastal site on Mull.

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Figure 1. Example page from the draft hoverfly atlas

Each page incudes relevant information on nomenclature, biology, phenology (over 3 epochs), status and distribution. A map is provided, together with phenology histograms and a trend analysis. Regional trends are also depicted where possible.

Call for data

In the last Newsletter we made a call for data. We also made a similar announcement on Dipterists Day. In theory, we can import data right up to quite a late stage in the production process because Stuart has automated much of the document generation. Inevitably, however, there has to be a cut-off point so that we can make sure all data have been suitably vetted. We are therefore looking at the end of March 2026 as the final date for submissions. So, if you have records, do please send them into Roger (syrphid58@gmail.com).

Meanwhile, the data received up to 13 December 2025 have been uploaded, resulting in 2,133,575 records on the HRS database, of which 1,994,253 are 'unique records' defined as unique combinations of species, date, grid ref and recorder's name. These data include a December download from SyrphBoard and all data received as spreadsheets from individual recorders. The result is depicted in Figure 2, which shows that there is still a long way to go before 2025 data reach anything like the levels of the preceding five years.

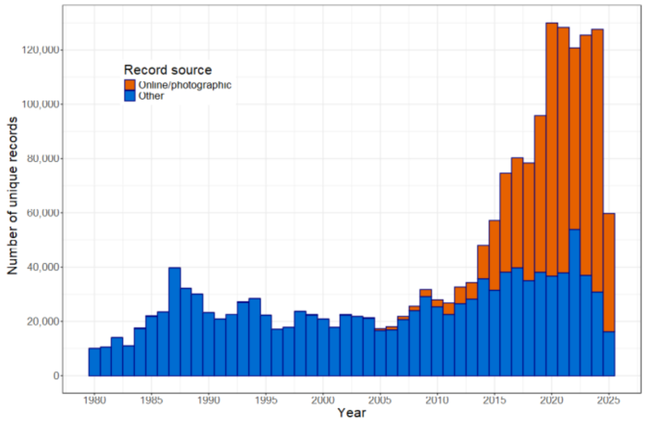


Figure 2. Numbers of unique records by year present on the HRS database

The number of 2025 unique records received so far is 59,669, which intuitively feels lower than we might have expected at this time of year. There are reasons to believe that the total for 2025 will be closer to 100,000 when all records have arrived. Firstly, there are substantial additional blocks of data (possibly 30,000) on iRecord and iNaturalist respectively. In addition, there are incomplete datasets on SyrphBoard that remain to be uploaded and, finally, quite a number of people have still to forward their data. Nevertheless, the indications are that the 2025 dataset will be markedly down on 2024.

This situation will come as little surprise to many recorders because 2025 was far from ideal. In addition to very low rainfall, there were several heatwaves that knocked back insect populations in many parts of the country. Quite how bad these effects will be remains to be seen, but it is noteworthy that 2022 was the last serious heatwave and data that year are noticeably lower than both preceding and subsequent years.

Trends

In common with previous years, downward trends continue, with no sign of improvement. One that is of particular interest is the difference between the trend for the 10 most frequently reported species and that for a basket of 'difficult' species. When compared, the 10 most frequent species rise in relative frequency whilst the difficult species continue to decline (Figure 3).

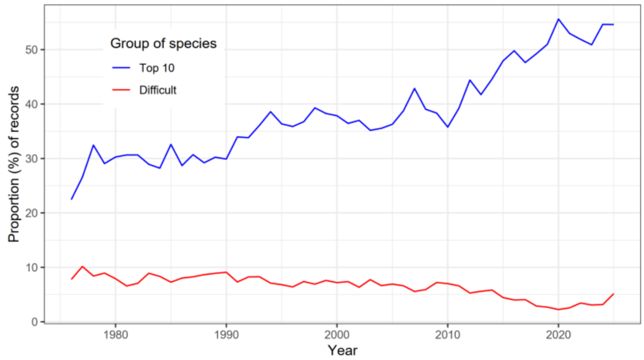


Figure 3. Trends for the ten most frequently recorded species (blue) and a basket of 'difficult' species (red)

Looking at the data of more active specialists, the apparent 'shortage' of records of 'difficult' species is not readily explainable. For example, during the spring field meeting in Derbyshire this year *Cheilosia* were abundant, including numerous *Cheilosia pubera*. More work is needed to understand what is going on!

Range-change

Analysis by Stuart in which Maxent was used to produce species distribution models for the periods 1976-1989 and 2010-2025 using the following environmental layers:

- ESA Landcover: for 1992 for the early period and 2022 for the later period (these are the earliest and latest accessible)
- Bioclimatic vars: Average of 1976-89 for the early period, average 2010-2024 for the later (gridded weather data for 2025 is not yet available)
- European Soils Database – Dominant soil type for 2x2km squares

Stuart used all available 2km presences for the species and a random sample of 8,000 2km squares from those for which we received records during the two periods as background (15,903 and 27,036 squares respectively). The models were then used to predict the logistic probability of occurrence of the species in each 2km square.

The plot represents the result of subtracting the values for the later prediction from the earlier one. Orange indicates an increase and blue a decrease. **Remember that logistic probabilities are scaled**

arbitrarily and are not comparable between different models - so we can only look at the shifts. The actual values, whether the change is +ve or -ve, cannot be taken as an indication of an absolute increase or decrease in frequency in a given area!

A pattern that appears in several of the limited suite of species analysed is a decline in southern and eastern England coupled with an increase in the north and west. Figure 4 shows an example of such a potential range shift in *Neoascia podagrica.*

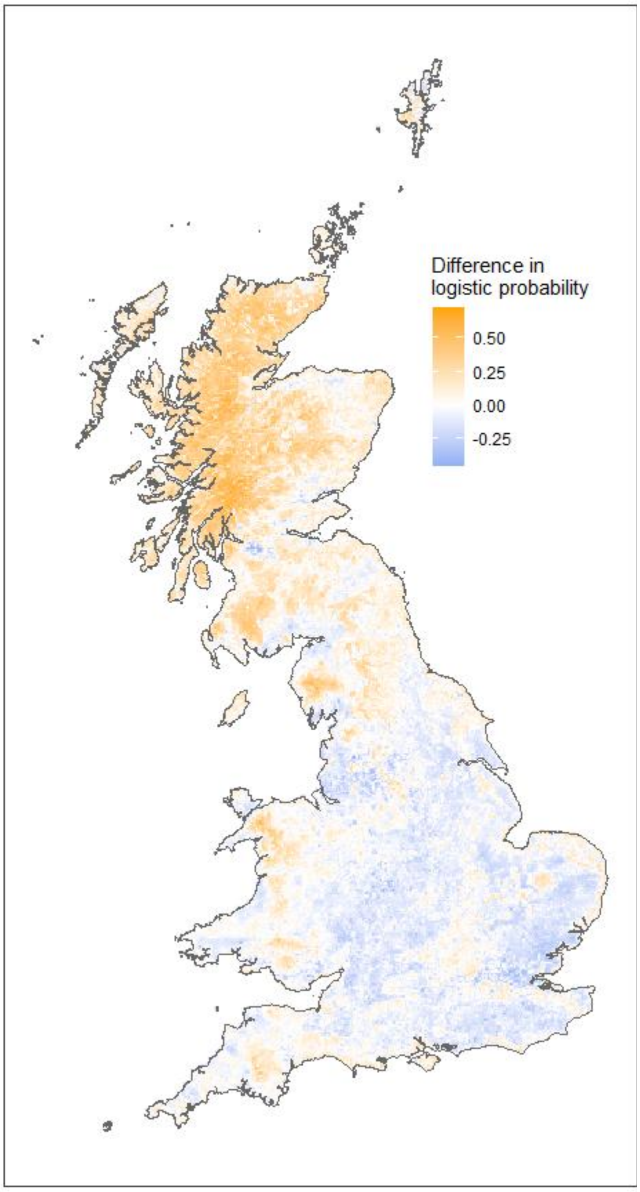


Figure 4. Differences in the logistic probability of the predicted occurrence of *Neoascia podagrica* over two epochs: 1976-1989 and 2010-2025.

This example is very interesting because *N. podagrica* larvae develop in decaying vegetation, such as compost heaps. Their larvae are seemingly very sensitive to changes in humidity and moisture content and this provides a clue to the factors that probably lie behind this modelled outcome. When the two epochs are compared, the frequency of drought and heatwaves has increased markedly, as have overall average temperatures. Thus, whilst this modelled outcome cannot be completely definitive, it strongly suggests the reason for this change. We must, however, also bear in mind that the frequency with which *N. podagrica* is recorded has markedly changed because the majority of *Neoascia* records received today are not supported by a specimen. Unfortunately, it cannot be reliably identified from photographs, even though we might assume that the majority do depict *N. podagrica*.

A second British record of *Sphegina limbipennis*

Andrew Cunningham

The hoverfly, *Sphegina limbipennis* was confirmed for the first time in Britain by Richard Lane at Holyford Woods in VC3, South Devon in April 2025 (Lane et al. 2025). I can now report the second confirmed British record from VC4, North Devon. The roads and lanes along the Exe Valley between Tiverton and Bampton contain many small roadside quarries that have long since been reclaimed by nature. These often provide ideal spots when sampling locally. One such quarry at Carscombe (SS929191) near Stoodleigh provided a single female *Sphegina limbipennis* on the 17th October 2025 during an occasionally sunny afternoon. It is difficult to be specific regards what it was swept from however. This small quarry, within a deciduous wooded valley, supports a mixture of vegetation dominated by *Prunus laurocerasus* (Cherry Laurel). A long since fallen tree trunk covered in fruiting bodies of *Armillaria mellea* (Honey Fungus) Figure 1, was the source of the bulk of my sample and was potentially the place where the *Sphegina* specimen was found.

This new record suggests that *S. limbipennis* is established across a much wider area in Devon and is likely to be found in other localities in south-west England. *Sphegina* species are often difficult to locate, and the fact that both records were made by general sweeping, this method is likely to be the one that generates further records. The April and October dates of these first British records suggest a long flight season.

Reference

Lane, R.P., Pennards, G.W.A. & Morris, R.K.A., 2025. *Sphegina limbipennis* Strobl (Diptera, Syrphidae) new to Britain. *Dipterists Digest*, 32, 176-179.

Figure 5. The likely source of *S. limbipennis*; a fallen trunk covered in Honey Fungus fruiting bodies and overhung with Cherry Laurel foliage.

Figures 2-5. *Sphegina limbipennis* (Female)

Volucella from a Wasp Nest in Oxford

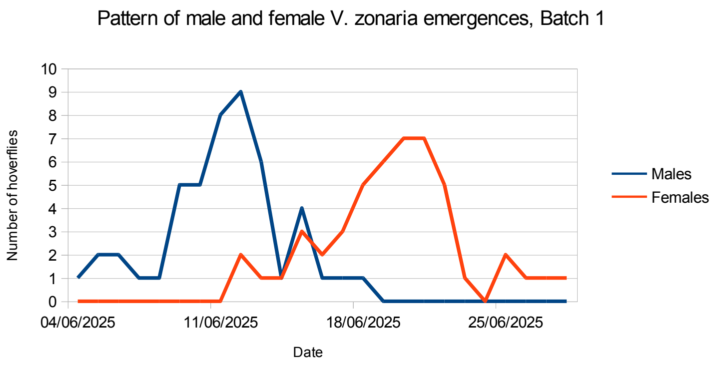
Sarah Loving

In the Autumn 2025 HRS Newsletter I reported on *Volucella* emergences from an underground *Vespula vulgaris* nest in my garden. Over 100 *Volucella* larvae were collected in mid-December 2024 and kept in an unheated shed, with the container moved outdoors in May 2025 (referred to below as 'Batch 1'). In June 2025 a further 49 *Volucella* puparia were discovered still in the nest and kept separately outdoors ('Batch 2').

Batch 1

Between 19 and 31 May 2025 at least five *Volucella pellucens* emerged (two males, two females and one not checked). I was away between 23 and 26 May and left the container open. A subsequent count of empty puparia suggested that another seven hoverflies emerged over these four days. It seems likely that these would also have been *V. pellucens*.

Between 4 and 28 June 2025, 97 *Volucella zonaria* emerged, with almost equal numbers of males and females (48 of each, plus one not checked), and only three not viable. Female emergence peaked 8-9 days later than male (see graph below). A subsequent search of the container revealed two more failed emergences in the soil. There were 109 empty puparia, and five additional puparia failed to hatch, making a total of 116 puparia in this batch.



Batch 2

Emergences began on 18 June 2025, 30 days later than Batch 1. Two *Volucella pellucens* (one male, one female) were followed by 24 *Volucella zonaria* (25 June to 5 July). There were nearly four times as many *V. zonaria* females (19) as males (five), with two hoverflies not viable.

On 1 July a male parasitoid wasp emerged from one of the *Volucella* puparia, followed by nine female wasps over the next 11 days. Specimens were confirmed by Brian Little as *Rhembobius perscrutator* (Ichneumonidae, Cryptinae), a known parasitoid of hoverfly puparia but not specifically of *Volucella* (see discussion). 11 weeks later (16-22 September) a second emergence of six wasps (two male, four female) took place. At the time of writing, the remaining puparia are being retained in case of further emergences.

Discussion

It is notable that two *Volucella* species were able to exploit the same wasps' nest. Rearing records for *Volucella* larvae seem to be few and far between, but Ball and Morris (2005) refer to a 1946 report by F.C. Fraser, who reared small numbers of *V. pellucens* and *V. zonaria* from 17 larvae collected from a *V. vulgaris* nest. In this present case, *V. zonaria* was much more successful than *V. pellucens*, and the nest sustained a minimum of 165 *Volucella* larvae that pupated, which seems a high load.

The later emergence of both *Volucella* species in Batch 2 suggests that rearing Batch 1 indoors, even in an unheated shed, may have sped up their development. For *Volucella inanis* larvae reared in the lab, Rupp (1989) observed that males were always first to pupate and first to emerge. The data from Batch 1 suggest the same is true of *V. zonaria*. In Batch 2, however, there was a striking difference in the numbers of male and female *V. zonaria*, perhaps related to parasitism. If *V. zonaria* males do pupate before females, then a parasitoid wasp visiting the nest cavity at a point where all the males but only some of the females had pupated would lay eggs in proportionally more male puparia, resulting in fewer male hoverfly emergences.

Volucella species do not seem to have previously been documented as hosts for *Rhembobius perscrutator*. Schwarz and Shaw (2010) list *Callicera rufa* and *Myathropa florea*, and Horstmann (2000) lists *Blera fallax*, *Syritta pipiens*, *Xylota segnis* and *Eumerus* sp. At least 35% of the *Volucella* puparia in Batch 2 were affected. It seems particularly interesting that there were two emergence periods for *R. perscrutator*, some considerable time apart, although this could also be explained by two wasps having laid eggs on two separate occasions. It is not clear whether delayed emergence has been documented before, although Schwarz and Shaw (2010) suggest the species may be partly plurivoltine.

Many thanks to Brian Little, Geoff Wilkinson, Gavin Broad, Jaswinder Boparai and Nicola Garnham for their help and advice.

References:

Ball, S.G. And Morris, R.K.A., 2005. Sixty years of *Volucella zonaria* (Poda) (Diptera: Syrphidae) in Britain. British Journal of Entomology and Natural History, 17(4), pp.217-227.

Horstmann, K., 2000. Die westpaläarktischen Arten von Ethelurgus Förster, 1869 und Rhembobius Förster, 1869 (Hymenoptera, Ichneumonidae, Cryptinae). *Entomofauna*, *21*(8), pp.65-76.

Rotheray, G.E., 1999. Descriptions and a key to the larval and puparial stages of north-west European *Volucella* (Diptera, Syrphidae). *Studia Dipterologica*, 6(1), pp.103-116.

Schwarz, M. and Shaw, M.R., 2010. Western Palaearctic Cryptinae (Hymenoptera: Ichneumonidae) in the National Museums of Scotland, with nomenclatural changes, taxonomic notes, rearing records and special reference to the British check list. Part 4. Tribe Phygadeuontini, subtribes Mastrina, Ethelurgina, Endaseina (excluding Endasys), Bathythrichina and Cremnodina. *[" Entomologist's Gazette"], 61*.

Rhembobius perscutator, female (left0, male (right)

Rhembobius perscutator, male at the point of emargence
(Photos: Sarah Loving)

Heringia heringi reared from larva on Bay tree.

Stephen Suttill

I have a Bay tree *Laurus nobilis* in my garden in Mossley on the Pennine fringe of Greater Manchester. In late July 2025 I noted that the tree was affected with leaf curls and galls which I believe are caused by the psyllid *Lauritrioza alacris*. I investigated the galls and found some of them were also occupied by lepidopteran larvae which I have reared and found to be Light Brown Apple Moth *Epiphyas postvittana*. However, on 30th July I found what was definitely a hoverfly larva and, at first glance, a Pipizine of some kind. I had a look through Rotheray (1993) and it appeared to be the larva of *Heringia heringi* in all but one respect. The guide said they were brown but this one was most definitely green. Photographs of *Heringia* larvae almost always show them as brownish but I did find one on Cyrille Dussaix's web pages, *Syrphidae Larves*, which had a greenish tinge. The larva pupated on 4th August, becoming pinkish in appearance, and an adult female *Heringia heringi* emerged on 15th August. I did find another similar puparium attached to a plant pot below the Bay tree but this failed at the pupal stage.

It seems that most records of *Heringia* larvae in the UK result from the searching of galls on Poplar *Populus*, formed by the aphid *Pemphigus spirothecae*. Speight (2024) also mentions *Ulmus,* fruit trees e.g. *Malus*, *Prunus* spp., *Pyrus,* and shrubs e.g. *Laurus, Pistachio.* Perhaps more searching of galls on some of these other plants might be productive? Speight (2024) adds, "In the case of *Laurus nobilis*, Rojo et al (1999) observed that it was characteristically the young plants, less than 1m tall, on which *H.heringi* larvae were found. Rojo and Marcos-Garcia (1997) established that from oviposition to production of a puparium takes three weeks and that the adult hatches from the puparium after two weeks, during the summer."

References:

Speight, M.C.D. (2024) Species accounts of European Syrphidae, 2020. *Syrph the Net, the database of European Syrphidae (Diptera)*, vol. 104, 314 pp., Syrph the Net publications, Dublin.

Rotheray, G.E. (1993) *Colour Guide to Hoverfly Larvae, Diptera, Syrphidae, in Britain and Europe*, Dipterists Digest No. 9.

Heringia heringi larva (left) amd puparium (right) (Photos: Stephen Suttill)

Investigating European distributions

Stuart Ball

Work on a 50th Anniversary Hoverfly Atlas has led to an interest in the wider European distribution of some of the species which are on the fringes of their range in. The most obvious source of information is the Global Biodiversity Information Facility (GBIF - www.gbif.org). Observation data from GBIF is free to use – to quote: "*Data accessed through the GBIF network is free for all—but not free of obligations. Under the terms of the GBIF data user agreement, users who download individual datasets or search results and use them in research or policy agree to cite them using a DOI, or Digital Object Identifier.*"

I have downloaded datasets from time to time over the years, but for this work I obtained an up-to-date download of Syrphidae flagged as coming from "Europe": 3,600,033 records. As required above – here is the citation: *GBIF.org (29 November 2025) GBIF Occurrence Download https://doi.org/10.15468/dl.quppa5*.

Figure 1 shows the coverage (20x20km squares of the Lambert Azimuthal Equal-Area (LAEA) Europe spatial reference system) from which there are records. The biggest problem with this dataset is that, although the coverage is very widespread at least in western Europe, it is very uneven. Areas with well-developed recording schemes such as Great Britain, the Netherlands and Belgium are heavily covered. There are other countries with recording schemes including Ireland and the southerly parts of Scandinavia. Otherwise, coverage is very thin, especially from the Mediterranean basin and eastern Europe. This is illustrated in Figure 2 shows the number of records per 10x10km square.

This rather thin and patchy coverage of much of Europe makes it difficult to interpret species distributions. A possible way of "filling in the gaps" is to use Species Distribution Modelling (SDM). Conceptually, this is quite straightforward: take the "points of presences" of a species, the places where it is known to occur, and a set of "environmental variables" – maps of things like land cover, climate, soil, etc., and train a model which looks for a pattern in the environmental requirements of the species. Essentially, you are trying to quantify its "habitat". It is then possible to use the fitted model to look for other places where these conditions occur and, consequently, predict the potential distribution of the species.

Environmental variables:

- European Space Agency land cover, 2016-2022. Classifies the land cover into things like broadleaved or coniferous woodland, various types of grassland, etc. of 300m pixels. These can be aggregated to the area of each land cover type per 1km or 10km square.
- Weather. Daily minimum and maximum temperature and rainfall for 1km squares are available. I downloaded 2011-2022. These can be aggregated into monthly values and then these used to calculate "bioclimatic variables" – 19 annual values, such as "Total rainfall" or "Maximum temperature of the warmest month", which have been found to be ecologically meaningful.
- European Soils Database. Various attributes of 1km squares such as the dominant soil type.

- Topographic variables such as the mean altitude per square calculated from a Digital Elevation Model.

Many modelling systems are available, but the one I prefer is Maxent (Maximum Entropy Modelling). The software is readily available, easy to use and is relatively fast. Some models can be very computationally intensive and, if applied to such a large geographic area, can take a long time to fit! Data manipulation, modelling and plotting was all carried out using R (www.r-project.org).

Given the ready availability of computing power and access to powerful software such as R, it is relatively easy to generate models. However, the variety of modelling software and the range of environmental variables that could be used, mean that a huge range of models could be produced. The question then arises, are they any good? The usual approach is to use a random sample of the available observations of a species to train a model and then to evaluate the model using the observations that were withheld from training.

As an example, let us consider *Chalcosyrphus piger*. This species is a recent addition to the British list from a single record from Suffolk in 2021. Figure 3 shows the distribution of *C. piger* according to data available from GBIF (I have added the British record to the map (not yet on GBIF), but it is not in the data used for the analyses).

Presence of the species in 294 10x10km square from the period 2010-2025 are available. I fitted a Maxent model using a randomly selected half of these and 35 environmental variables including ESA land cover, bioclimatic variables, dominant soil type and mean altitude. The background sample used for this model consisted of 8,000 10x10km squares randomly selected from 32,091 such squares from which hoverfly records on GBIF came. The model was then evaluated using the withheld observations and a separate background sample: test AUC = 0.934 using 147 withheld presences and 7,746 background squares (some of the selected squares were dropped during the calculations because one or more environmental variables were not available). Figure 5 shows a Receiver Operating Characteristic (ROC) plot from the model evaluation. Figure 4 shows a map of the predicted logistic probability from the model and a potential distribution generated by applying a threshold to turn these values into predicted presence/absence. Note that the model **cannot** predict the probability that a species occurs in a square. The available data used to fit the model is only the presences of the species, no information is available about where it is absent! The predictions are referred to as “logistic probabilities” and are values scaled to 0-1 for convenience. They can be interpreted as an index with higher values indicating that the species is more or less likely to be present compared to other squares, but lacking any absolute meaning. Choosing a suitable threshold to turn this into a presence/absence value is very tricky. I have used a value from the model evaluation: “equal sensitivity and specificity”, but many other values are possible and will give somewhat different pictures.

So, what can we conclude about the wider distribution of *Chalcosyrphus piger*? The test AUC value suggests this is a pretty good model. It suggests that the species occurs mainly in a band across northern Europe bordering the Baltic and into the low countries. It also occurs further south in areas of higher altitude such as the Alps and Pyrenees. Britain is very much on the western fringe of its range, but it is feasible it will be found in other areas of eastern England.

Chalcosyrphus piger male
(Photo:Alan Thornhill)

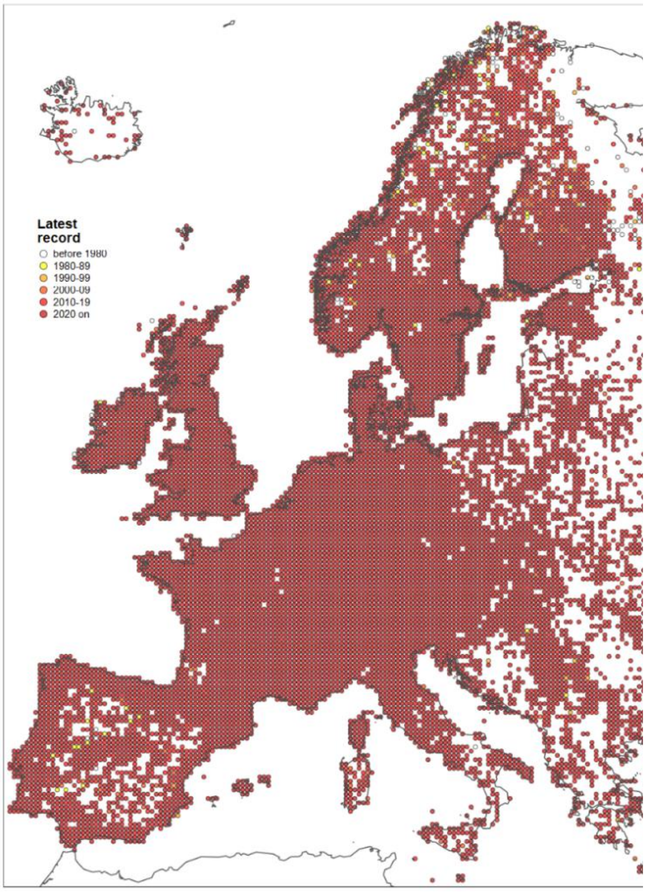


Figure 1: Coverage of European Syrphidae data downloaded from GBIF on 29/11/2025. The map shows the latest date of records from 20x20km squares of the LAEA Europe reference system.

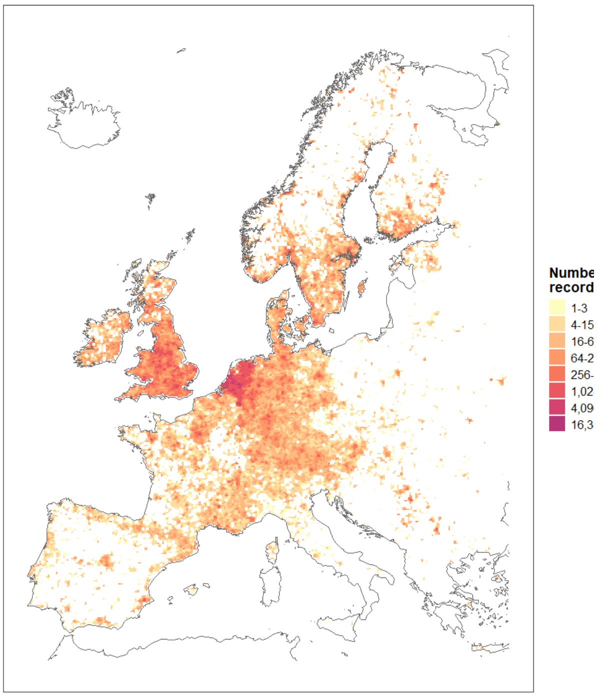


Figure 2:: Number of records per 10x10km square.

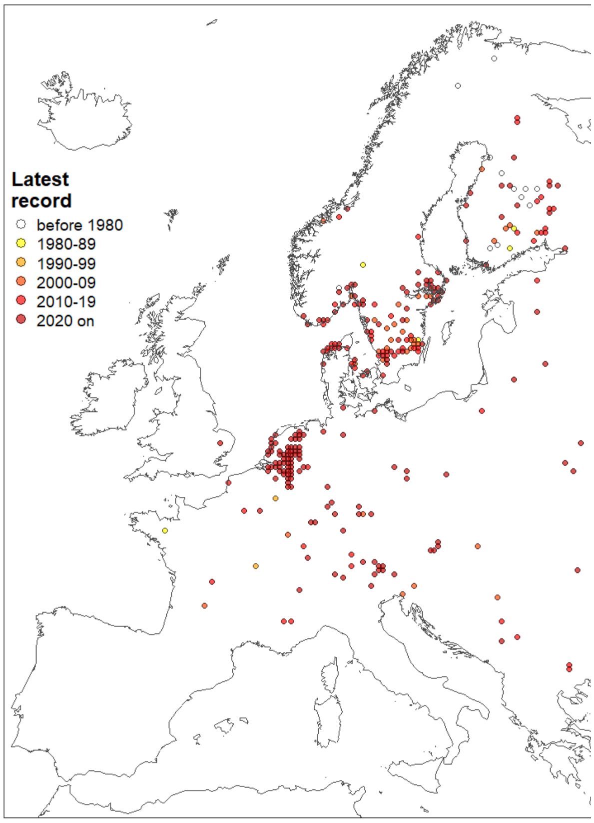
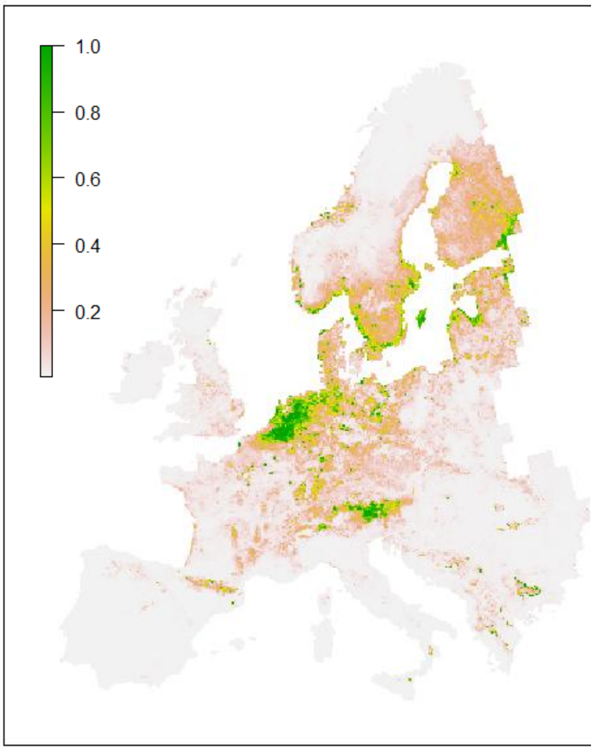


Figure 3: Observed distribution of *Chalcosyrphus piger*. The map shows the latest year for 20x20km squares.



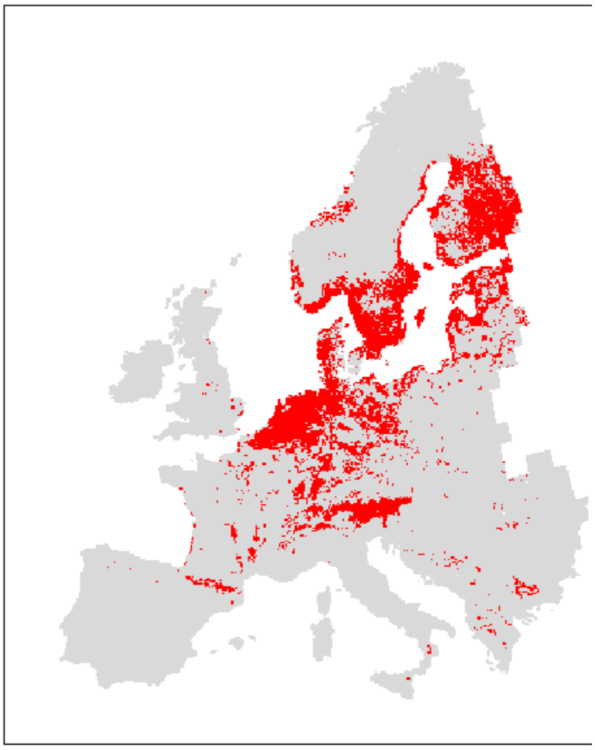


Figure 4: Maxent model trained using half of the available points of presences of *Chalcosyrphus piger.* The top plot shows the logistic probability of occurrence predicted by the model and the lower plot, presence-absence predicted by applying a threshold ("equal_sens_spec").

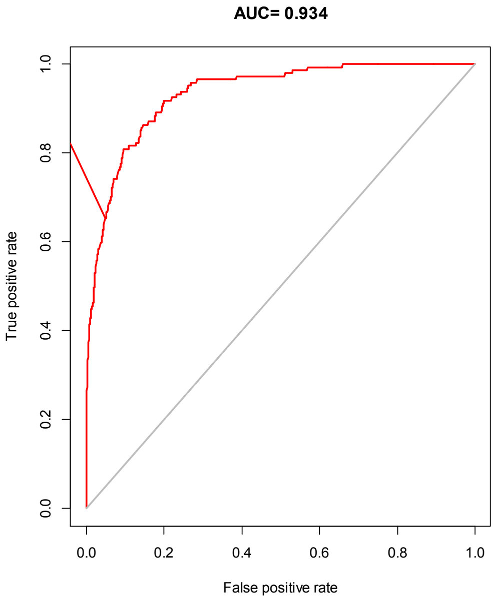


Figure 5: ROC plot for test data (i.e. observations withheld from training the model) for *Chalcosyrphus piger*.

An island mentality?

Roger Morris

We live on an island and, as such, we have an 'island fauna'. Our hoverflies fare no better than other fly families or insect orders. Fewer than 290 species occur across Britain and Ireland out of a European fauna of more than 900 species. The geography of Europe is such that a big difference is to be expected; we have limited and very low montane habitats, there are no Boreal or Arctic zones and hotter environments where geophytes are dominant are also missing. Our climate is also very different: at least until recently, we had a warm, wet 'Atlantic' climate.

Most importantly, we were isolated from mainland Europe very soon after the last ice-age, during the 'Holocene transgression'. Our fauna represents those species that made it to our shore and survived. We must assume that at least some of the boreal fauna that we lack once occurred here but was pushed out as our climate warmed and the permafrost melted. Other species may have been confined to very small areas and became genetically compromised. We can but speculate what might have been. To do so, we would need to have a clear idea of what might have occurred.

There are already some useful sources such as the comprehensive *Syrph-the-Net*, but it is not readily available on-line. There are plenty of references to it when googling, but knowing about it, finding and downloading it are very different matters. There are also several very useful guides to the fauna of Sweden, Finland, Denmark, The Netherlands and to 'Britain and North-west Europe', some of which are still in print. Perhaps this complicated picture explains why Britain really does not figure in European syrphidology apart from one or two honourable exceptions (past and present).

Today, we have a dwindling population of taxonomically competent specialists and almost no representation of taxonomy in academia or, to that matter, within NGOs or consultancies. This shortfall is painfully obvious at the bi-annual International Symposia on the Syrphidae. British participation is almost non-existent, either in attendance or in presentations. Yet, there is useful work ongoing in Britain: we have arguably one of the most comprehensive species datasets for any 'European' country, perhaps only rivalled by The Netherlands and Belgium; and, there is a very active group of larval specialists.

Sadly, whilst there is a fairly steady stream of useful biological information about hoverflies published in the journals of our societies (especially Dipterists Forum and the BENHS), almost none of this information is accessed by European specialists. Ours is a very parochial community.

Wouldn't it be nice if we had access to relevant and readily available taxonomic information about Europe's hoverflies? It might be even better if we had access to photographs of the animals involved! If we had such information, perhaps we could identify opportunities to collaborate and make use of the things we do well, especially our experience in hoverfly conservation and drivers of the changing fortunes of hoverflies.

Help is on its way! How many readers have heard of Taxofly? The project's website announces its objectives as: *accurate taxonomic, occurrence and ecological data of the more than 900 hoverfly species occurring in Europe;* and (the production of) *high-quality images of the hoverflies useful for species identification. The EU hosted web platform for the data will constitute an openly available robust knowledge platform, and will serve both the broad public, and professionals in the field*.

The deadlines for its completion mean that by the time this newsletter is published, the website should be up-and-running. I gather (at the beginning of December 2025) that there are some technical issues still to resolve, but the species accounts are being finalised so it is just a matter of time before they are available. The photographs are pretty comprehensive – the work of Sander Bot whose *Hoverflies of Britain and north-west Europe* has been warmly received.

My own involvement in Taxofly has been very limited, having been asked at a late stage to provide additional English language editing. That process has been very informative because it has alerted me to numerous species that might occur here if only we spent more time looking for them or comparing specimens. Moreover, there have been many occasions where I have been able to point to British papers that were unknown to individual authors. Given that there have been so many recent insect arrivals to Britain, we must expect more hoverfly species to be added to the British list. At least in years to come we stand a chance of knowing what to expect, what they look like and how to identify them.

Might *Volucella* species be used to monitor the overall health of invertebrate abundance?

Roger Morris

The larvae of four out of the five species of *Volucella* in Britain are associated with the nests of bumblebees (*V. bombylans*) and social wasps (*V. inanis*, *V. pellucens* and *V. zonaria*). This relationship is of interest because *Volucella* abundance is likely to be directly correlated to the abundance of bumblebees and of ground and hole-nesting social wasps *Vespula* and *Vespa* that provision their nests with insect prey. As predators, social wasps lie at the top of the insect food chain and therefore their breeding success is directly correlated to wider prey abundance. Correspondingly, if wasps are abundant, the same ought to apply to their nest commensals and predators of wasp grubs.

There is, however, a complication, because both *V. inanis* and *V. zonaria* are clearly thermophilic and have undergone dramatic range expansion in recent years (Ball & Morris, 2021). This relationship arguably reduces the confidence we can have in any results for these two species because they will potentially be more affected by climatic variables than by the abundance and size of wasp nests. That leaves *V. pellucens* as a potential monitoring tool for overall biodiversity and *V. bombylans* as an indicator of the health of bumblebee populations.

Over the past six years, I have intensively recorded my 'patch' in south London, Mainly Mitcham Common, Beddington Farmlands and Beddington Park (all in TQ26) together with a range of other locations within a fifteen-mile southward radius of home. The results look promising if one compares the years (Figure 1). Both species seem to tell a story.

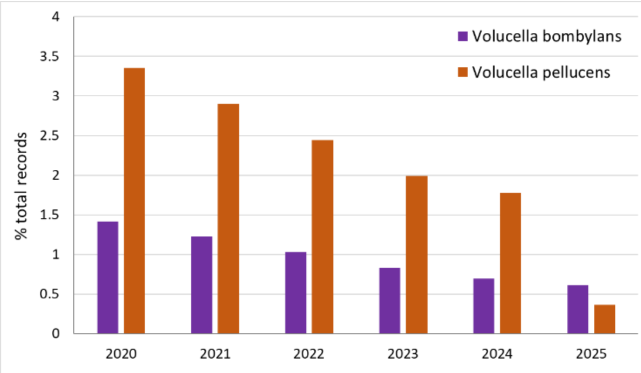


Figure 6. Proportion of records of *Volucella* species against all species recorded in south London between 2020 and 2025.

In south London, *Volucella bombylans* was noticeably scarcer in 2025 but the six-year trend also points to an ongoing local decline. *Volucella pellucens* was also noteworthy by its absence in 2025 – numbers were shockingly low and a trend can also be discerned. I'm not sure whether social wasp numbers were necessarily as low, however. Indeed, my overall impression was a small upturn in the fortunes of some species, especially *Dolichovespula media* (not a likely host of *V. pellucens* as it is an aerial nester.

In both species there is a discernible downward trend in the numbers of records. Whilst I do also have counts, these are less reliable and I begin to think that it will be necessary to start marking them so that estimates of their overall abundance can be calculated.

If, however, one looks at the data from south-east England directly extracted from the UK Hoverflies page, the picture is very different. It looks as though there has been no absolute trend, even though *V. pellucens* was far scarcer than in previous years (Figure 2).

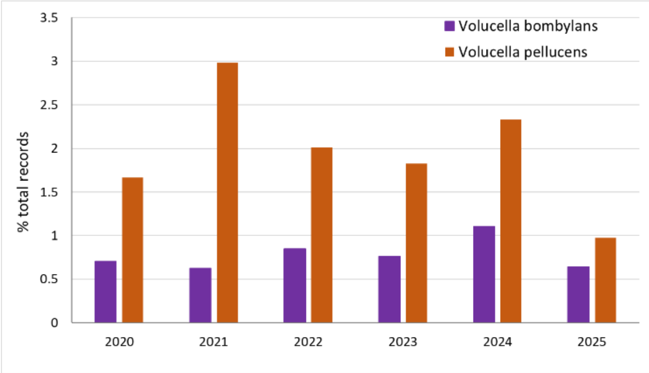


Figure 7. Proportion of *Volucella* records against all species records extracted from the UK Hoverflies Facebook page between 2020 and 2025

At this stage, the data are not entirely convincing. Were there to be several more datasets of similar length and intensity of recording from a localised area, it might be possible to investigate the situation in more detail. Several Facebook members do record intensively, and within the next couple of years their datasets will be sufficiently extensive to start to look at trends. We could really do with a bigger sample!

There are, doubtless, finite limits to the carrying capacity of wasp nests, although the actual level is unclear. Moreover, as the larvae of several species may inhabit the same wasp nest, inter-specific competition cannot be ruled out. Nevertheless, the predator/prey/commensal relationship offers several interesting research opportunities for diligent observers.

References

Ball, S.G. & Morris, R.K.A., 2021. Range expansion in British Hoverflies (Diptera, Syrphidae). *Dipterists Digest* (Second Series), **28**: 59-87.