

My thanks to everyone who has contributed articles for this newsletter. The subjects include two scarce hoverflies, *Syrphus rectus* and *Eristalis similis*, that I suspect few of us have knowingly seen as they could so easily be mistaken for more common members of their respective genera. Martin Speight's piece on *Milesia crabroniformis* reminds me that the Hornet (*Vespa crabro*) is surely one of the most charismatic of insects and also one that has a number of similarly charismatic mimics. Examples are the Hornet Moth (*Sesia apiformis*) and the Lunar Hornet Moth (*S. bombiformis*), and, among the Diptera, several that not only mimic the colours of the Hornet but are also, like the Hornet, the largest British members of their respective families, such as The Hornet Robberfly (*Asilus crabroniformis*), *Conops vesicularis*, and of course our largest hoverfly *Volucella zonaria*, a female of which is shown at the top right of this page.

When G.H Verrall published his "Syrphidae of Great Britain" on the first day of the 20th Century, *V. zonaria* was not listed as a British species, though it does appear at the end of his book in a list of "Reputed British Syrphidae" on the basis of apparently disputed claims that two examples had been found in the New Forest. Thus the British status of *V. zonaria* at Verrall's time was not dissimilar to that of *Milesia crabroniformis* today. *V. zonaria* is on average about 20% larger than any other British hoverfly. I have never seen *Milesia crabroniformis*, and may never do so, but being a further 20% larger than *V. zonaria* it must be a splendid sight.

Copy for **Hoverfly Newsletter No. 63** (which is expected to be issued with the Autumn 2017 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 20 June 2017.

Hoverfly Recording Scheme Update, Winter 2016

Stuart Ball, Roger Morris, Ian Andrews, Joan Childs, Ellie Rotheray and Geoff Wilkinson c/o 7 Vine Street, Stamford, Lincolnshire

Observant readers will note that the Hoverfly Recording Scheme team continues to grow. We now have six active members of the team, with a range of developing roles. This time we welcome Geoff Wilkinson who has a strong interest in hoverfly larvae and has joined forces with Ellie to grow the UK Hoverfly Larvae Facebook group; he will also be helping Roger to extract data from the main Facebook page. The level of active interest is growing very rapidly and it is likely that the team will grow bigger as we tackle the issues of managing incoming data and making sure that a reliable verification and mentoring service can be provided.

Overview of 2016

This has been a strange year. It started with great promise; that is until early July, when there was a period of extremely high temperatures in many parts of the country. This change was accompanied by a dramatic drop in the numbers of hoverflies that has been remarked upon by many observers. We are still compiling the data from recorders, so its full effects won't be fully apparent for some time, but the phenology histogram from the photographic dataset seems to bear this out. In most years, records for July far outstrip the numbers for June, but this year there was a definite hiccup. The data for August, September and October suggest that these months were closer to the norm, but at this point we did recruit several very active new recorders, so it is possible that the data are more reflective of recorder effort than of a hoverfly population trend. We really need to see what the data look like for some of our more active traditional recorders.



Figure 1. Breakdown of the proportion of 2016 records by month generated by the UK Hoverflies Facebook group and extracted from other photographic media.

Despite the slump in records in mid-summer, the year generated a range of interesting records, including *Callicera spinolae* from the London area, perhaps indicating that this species is undergoing an expansion of range. Records of other noteworthy species include *Callicera aurata*, *Cheilosia caerulescens*, *Cheilosia soror*, *Doros profuges*, *Meligramma guttatum*, *Mallota cimbiciformis*, *Meligramma trianguliferum*, *Parasyrphus nigritarsis*, *Pelecocera tricincta*, *Pocota personata* and *Xanthandrus comtus*.

Range expansion

Stuart has been investigating new ways of analysing northward spread in hoverflies. There are cases such as those of *Volucella inanis* and *V. zonaria* that are well-known, but it is far harder to be sure about some others. Stuart's system involves analysis of the median OSGB grid reference y-coordinate (in km) for the 10 most northerly records of each species in 5 year time intervals. The following maps show the distribution of *Cheilosia soror* from 1976 to 2015 with the median coordinate of the 10 most northerly records indicated by a dotted line.



Figure 2. Northward range change in *Cheilosia soror* between 1976 and 2015. The dashed horizontal line indicates the median y-coordinate of the 10 most northerly records.



Figure 3. Plot of the latitude of the ten most northerly records of *Cheilosia soror* in five-year intervals since 1976. The substantial change in range appears to have occurred between 1995 and 2000.

This particular analysis highlights not only the range change of *Cheilosia soror*, but also the relative abundance of this species. Roger's recording in 2016 found that this has become one of the commonest *Cheilosia* in parts of SE England which raises questions about its ecology because with such a wide distribution it is unlikely to be associated solely with truffles.

The Carrot Flower Challenge

One of the members of the UK Hoverflies Facebook page (Kevin Bandage) demonstrated the potential of carrot flowers as a lure by planting mature carrots in pots and then effectively using these as a 'Brackenbury Lure'. Those who don't remember Austin Brackenbury have missed his wonderful stories of Oughtibridge Signal Box where he used to pick hogweed and other umbels and put them in water near his signal box. Austin then recorded the visitors to these flowers and amassed a fantastic list of hoverflies; hence the 'Brackenbury Lure'.

We think there is potential to develop a yearly event for the Recording Scheme, based on the idea of planting mature carrots (and possibly parsnips) in pots and in gardens. It is an idea that will be trialled by some members of the UK Hoverflies Facebook group and will be reported on next year. Anybody who is interested in participating should write to Roger (syrphid58@gmail.com) who will circulate instructions.

2015 Photographic report

A report exploring data extracted from photographs in 2015 has been produced. It is the second example of what is likely to become a regular Recording Scheme product and can be downloaded from http://www.bacoastal.co.uk/Entomology/2016-Photo-report.pdf. The report shows how this branch of recording has evolved, with a substantial cohort of very active recorders generating a remarkable number of records. Over 150 species were recorded in 2015 but some genera are substantially under-represented: *Cheilosia, Sphaerophoria*, Pipizines, and *Platycheirus* figuring relatively poorly.

This trend in recording has continued into 2016 and now we have a group of about 60 recorders who, together, are generating well over 20,000 records a year. The significance of this growth in effort is noteworthy because until 2012 the scheme generally averaged 20-25,000 records from all contributors each year. The new recorders mean that there has been considerable growth in the numbers of yearly records.

Inevitably, the data are dominated by a relatively small number of species, but this emphasis is not dissimilar to the composition of data received from a sizeable number of existing contributors.

The data include a number of noteworthy observations, including important records of species such as *Doros profuges* and *Callicera spinolae*. One member has shown great proficiency in finding *Pelecocera tricincta*, and a very high proportion of the data for *Cheilosia caerulescens* come from photographs.

We are starting to see a slight shift in recorder behaviours with several active photographers retaining specimens that have been photographed. In this way, we are starting to build up a reliable collection of photographs of live animals in challenging genera (especially *Cheilosia*). The quality of many photographs is quite remarkable, and as time has passed the skills of these recorders have evolved too. With regular feedback they have started to capture animals from a variety of angles, thereby greatly improving the chances of arriving at a reliable determination.

An example of this paradigm shift is provided by the article in this newsletter by John Bridges, who photographed *Eristalis similis* but was not sure what it was. By good chance, he retained the specimen and produced a series of excellent stacked shots that help to explain the critical features of *E. similis*.

iRecord

Use of iRecord has grown over the past few years and now involves between 6,000 and 7,000 records a year. Unlike other schemes, we have not promoted its use because it does place additional demands on our capacity to verify data. We are doing our best to keep on top of verification, but records do build up during the summer and will only be verified in the winter once the summer workload has abated. In general, iRecord is useful where hoverfly recording is not a central part of your interest - it is great for occasional incidental records. Those members who contribute large datasets are encouraged to continue to use existing mechanisms (spreadsheets and database transfers).

Over the last two years, Roger has made a concerted effort to document the problems found on iRecord. The statistics for 2016 are presented here:

	No photo	Photo
Time (hrs)	9.28	12.52
Records	3820	2446
Records queried	27	0
Records rejected	2	0
Wrong ID	0	99
ID partially wrong	0	118
Non Hoverfly	0	2
Uncertain family	0	2

Table 1. Basic statistics for iRecord data verified in 2016

The data show how tricky it is to verify data without a supporting specimen or photograph; one simply has to work on a knowledge of the recorder's ability and the location and timing of the record. Occasionally a record stands out as wrong. For example, a record of *Eristalis cryptarum* in Cumbria was clearly unlikely and therefore rejected. It transpired that this arose because the common name "The Bog Hoverfly" has been used for *E. cryptarum*, but is also applied to *Sericomyia silentis*! This tells an important story about the dangers of using common names!

Checking photographic submission, it was noteworthy that a sizeable proportion of the records that were rejected involved photographs that did not sufficiently depict the critical features to offer a firm diagnosis. Problems are especially common in *Eristalis, Syrphus, Eupeodes* and *Sphaerophoria*.

Rumours of Milesia

Martin C D Speight

Rumoured sightings of Europe's largest syrphid, *Milesia crabroniformis* (Fab.) in SW England remain unsubstantiated. One might wonder how it is possible for there to be much doubt, if someone saw this insect, whether it really was *M. crabroniformis*. That it is a mimic of the European hornet, *Vespa crabro* L., is widely recognised, though when you see model and mimic side by side, as in Figure 1, they don't look especially difficult to tell apart. But this fly is by no means such an obvious insect as it seems to be.



Figure 1: *Milesia crabroniformis*: female, top; dark male, left; pale male, right; worker *of Vespa crabro*: bottom (photos: Martin C D Speight)

The differences between *M. crabroniformis* in a photo and "in the flesh" are considerable. *Milesia* crabroniformis appears in late summer, and is on the wing until the beginning of October. Throughout this period hornets are very busy around flowers, hunting honey bees and bumblebees in particular. Both the hornet and *M. crabroniformis* are oak forest insects and are frequently to be found flying round the same

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flowers, at the same time. Roadside stands of Sambucus ebulus are a good place to look for M. crabroniformis at the start of its flight period, and flowering trusses of ivy (Hedera) are where you find it towards the close of its season. Hornets can also be much in evidence in both situations. The hornets fly swiftly over, through and round a clump of Sambucus ebulus, darting in to grab a luckless bee engrossed in Milesia flies in precisely the same way, at the same height above ground, foraging on a flower head. making abrupt "pounces" on flowers when it stops to feed. Hornets emit a rather characteristic buzz in flight. Milesia sounds almost exactly the same and is exactly the same size. When both hornets and M. crabroniformis are flying round a stand of plants in flower it is extremely difficult to decide which insect is a hornet and which is a fly. Only when Milesia settles on a flower does it give itself away, by holding its wings out in delta shape, while the hornet is more likely to fold its wings over its back. But both insects hang from flowers in the same fashion. So, was that hornet you saw last summer really a hornet? Unless you were expecting to see Milesia crabroniformis, or were looking expressly for it, would you have looked twice at the "hornet", to make sure. Catching hornets in one's net, just to make sure they are not Milesia crabroniformis, is probably not the preferred option of many dipterists. Vespa crabro is a remarkably docile insect, but it can become annoyed.

If one puts these various considerations together it does seem possible that *Milesia crabroniformis* could be alive and well and living in woodland in southern England somewhere, as yet undetected. How could it have got there? It is not recognised as a migrant species, but it is known from parts of Brittany. There is so much movement of people and goods these days it might even have arrived by accident. It is not difficult to envisage a *Milesia* flying, unnoticed, into a caravan in northern France and then being hastily liberated when discovered a day later, on arrival at a campsite in Somerset, or Cornwall.

An assessment of female Syrphus exhibiting features of S rectus

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Syrphus rectus is recognised as a valid species in North America. A number of female Syrphus specimens exhibiting characters of S. rectus have been identified in the UK and have been ascribed to the subspecies S. rectus bretolensis (Goeldlin de Tiefenau). However, it is unclear at present if these are true S. rectus, a yellow-legged colour form of S. vitripennis, or something completely different. Male S .rectus are not currently distinguishable from S. vitripennis.

A female *Syrphus* found as a larva in Bishops Stortford, Hertfordshire, and reared by Colin Plant in June 1997 proved to be *S. rectus*. A female was caught in a Malaise trap running from 12 August to 2 September 1999 at Glenveagh National Park, Donegal and a small number of additional specimens have been recognised from Britain.

The characters used to identify *S. rectus* females are: hind femur with a weak dark strip anteriorly about halfway along, and basal cells of the wing with areas bare of microtrichia (*British Hoverflies*, Stubbs and Falk 2002). *Hoverflies of Northwest Europe*, van Veen 2004, p214, states of the female: femur 3 yellow on basal ¹/₂, usually partly brownish on apical ¹/₂. Additionally, van Veen notes 'status doubtful (Speight, 2003)'.

On 16 July 2010 I caught a female *Syrphus* at Felmersham Gravel Pits, Bedfordshire (SP991586) on bramble (*Rubus*) flowers. The hind femur was extensively yellow but with an arrangement of brownish smudges basally and at the mid-point, creating a clear, oblique, yellow stripe at the mid-point between these dark markings. This specimen was collected and microscopic examination showed that extensive areas of the basal cells were free of microtrichia (first basal cell with an estimated 10% microtrichia cover and the second basal cell with an estimated 55% microtrichia cover). This specimen was believed to conform to *S. rectus*. Photo 1 shows the entire insect and Photo 2 shows a close up of the hind femur.

While identifying hoverflies from photos posted on the UK Hoverfly Facebook group, I noticed an occasional female *Syrphus* with a dark smudge at the midpoint of the hind femur, but otherwise with the hind femur being all-yellow. I decided to look out for such females during my own fieldwork and check the microtrichia of the basal cells.

On 21 June 2015 I collected a female *Syrphus* from Elveden in Thetford Forest, Suffolk (TL796802) which had a dark smudge at the mid-point of a hind femur that was otherwise entirely yellow except for the extreme base. The specimen showed complete coverage of microtrichia across the basal cells, indicating that it was *S. ribesii*. The smudge in this case was caused by dark pigment on the femur. Photo 3 shows the entire insect and Photo 4 shows a close-up of the hind femur.

On 6 June 2015 I collected a number of hoverfly larvae associated with aphids from Maulden Wood, Bedfordshire (TL073389) in order to rear them through. The larvae started to pupate on 29 June. On 6 July a female *Syrphus* emerged from one of these pupae which had a dark smudge in the centre of an otherwise yellow hind femur. Examination of the microtrichia showed that the coverage was complete across the basal cells indicating that this was *S. ribesii*. In this case the dark smudge was caused by dark hairs only – there was no dark pigmentation to the middle part of the femur. Photo 5 shows the entire insect and Photo 6 shows a close-up of the hind femur.

From these specimens it appears clear that a dark smudge at the midpoint of an otherwise all-yellow hind femur is acceptable for *S. ribesii*, whether caused by pigmentation or hairs.

Stubbs and Falk (2002) notes that rare intersexes of *Syrphus ribesii* occur in which the hind femur is dark-ringed, the base remaining yellow. Neither of the specimens (from Elveden and Maulden Wood) appeared to be intersexes.

In July 2016 I was able to examine Colin Plant's specimen of *S rectus* bred from a larva taken from *Prunus spinosa* in Bishops Stortford, Hertfordshire TL4820 and reared on greenfly, emerging June 1987. The surprising feature was that the hind femur was all yellow with barely any hint of a dark smudge along its length, see Photo 7, and Photo 8 for a close-up. The basal cells were found to be partly bare of microtrichia: an estimated 10% cover of microtrichia for the first basal cell and an estimated 20% cover for the second basal cell.

Both the Felmersham and the Bishops Stortford *Syrphus* show characters of *S. rectus*, yet they are quite dissimilar from each other, the Felmersham specimen having well defined dark markings on the hind femur and an estimated 55% microtrichia cover on the second basal cell, while the Bishops Stortford specimen has an all yellow hind femur and an estimated 20% microtrichia cover on the second basal cell.

At the same time as comparing the two possible *S. rectus* specimens, two females of undoubted *S. ribesii* and two of *S. vitripennis* were also at hand for comparison. The female *S. ribesii*, as expected, had complete microtrichia cover of the basal cells, while the *S. vitripennis* had an estimated 10% cover of both basal cells, similar to the condition in the Bishops Stortford specimen but differing substantially from that found in the Felmersham specimens.

Several photos of specimens of *S. rectus* from North America on the internet show the middle third of the hind femur black with the apical and the basal third yellow, quite different from either the Felmersham or Bishops Stortford specimens.

In conclusion, it would appear that further work is needed on UK specimens of *S. rectus*, including particularly the use of DNA, to establish their relationship with American specimens and UK specimens of *S. ribesii* and *S. vitripennis*.



1. Syrphus rectus collected from Felmersham Gravel Pits, Bedfordshire



2. Close up of hind femur of *Syrphus rectus* collected from Felmersham Gravel Pits



3. Syrphus ribesii collected from Elverdan, Suffolk



4. Close up of hind femur of *Syrphus ribesii* collected from Elveden, showing dark smudge caused by pigmentation



5. Syrphus ribesii collected from Maulden Wood, Bedfordshire 6. Close up of hind femur of Syrphus ribesii collected from



6. Close up of hind femur of *Syrphus ribesii* collected from Maulden Wood, showing dark smudge caused by hairs



7. Colin Plant's *S. rectus*, bred from a larva found in Bishops Stortford, Hertfordshire



8. Close up of *S. rectus* found by Colin Plant in Bishops Stortford, showing the all-yellow hind femur with practically no dark markings

All photo credits: Joan Childs

References:

Hoverflies of Northwest Europe, Identification keys to the Syrphidae. M P van Veen, 2004

British Hoverflies, Stubbs and Falk BENHS, 2002

Atlas of the Hoverflies of Great Britain (Diptera, Syrphidae). Stuart Ball, Roger Morris, Graham Rotheray and Kenneth Watt. Biological Records Centre NERC Centre for Ecology and Hydrology, 2011

With thanks to Colin Plant for the loan of the Bishops Stortford specimen, and John O'Sullivan for examining specimens with me and for proof reading this article.

Eristalis similis (Fallén, 1817) observed at sugar sprayed ivy in December

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From mid-November to January my daily "patch" is a small section of ivy at Dalton-le-dale (NZ418485). By mid-December the ivy has usually finished flowering (though a healthy second flush has occurred this year). I therefore spray leaves with a sugar/water solution; a technique that is very effective for attracting hoverflies, even in relatively poor conditions. Once the location is prepared, I wait and photograph all of the visiting hoverflies.

On December 17^{th} 2016, I recorded a female *Eristalis* that landed on a flower right at the back of the ivy patch. The best I could do was to take a few photos with the camera stretched out at arm's length while at the same time trying to see through the viewfinder to focus. After a handful of photographs the hoverfly flew off. At this time of the year it was most likely to be either *E. tenax* or *E. pertinax* and, looking at the image previews on the camera screen, the initial thought was *E. pertinax* with the yellow band on the hind tibia. Unfortunately, it sat with its rear towards me and views of the front feet were limited. There was, however, a

suggestion that the feet were not all yellow which would in fact rule out *E. pertinax*. As luck would have it, after a further 15 minutes a hoverfly landed on the ivy to my left. I could see it was a female; it had the yellow band on the hind tibia BUT dark mid and front feet. This was obviously the same hoverfly from earlier. The first photograph was logged at 11.54am and the specimen in the pooter 3 minutes later. Over the next hour or so the ivy produced a single female *E. pertinax* along with two male *Eupeodes luniger* and one *Episyrphus balteatus*.



Once home and able to analyse the photographs, I began to wonder if this could be a dark-footed *E. pertinax*, as I recalled that this was a further possibility. I therefore sent the photographs to Roger Morris, expecting the reply to be one of the commoner *Eristalis*. Much to my surprise, Roger's hunch was a species I had never come across: *Eristalis similis*, although he felt a second opinion was required. He therefore forwarded the photographs to Gerard Pennards, a Dutch Dipterist who provides invaluable assistance to the UK Hoverflies Facebook Group. It was pleasing to hear soon afterwards that Gerard had confirmed Roger's diagnosis. Given that this is a very unusual record and the most northerly UK record for *E. similis*, I took a set of stacked shots of the features needed to come to a positive identification that are reproduced below:

The most important features to be aware of are:

- This is a large species that is similar in size to *Eristalis tenax* and *E*, *pertinax*.
- The front and middle feet are dark, as in *E. tenax*, but the hind tibia is partially pale (like *E. pertinax*).
- The face has a darkened un-dusted area but no band of dark hairs on the eyes.
- The thoracic pleurae are dusted ashy coloured.
- The hind femur is also dusted whereas it is shiny in other British species.



Some observations on the behaviour of male Eristalis nemorum

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The sight of a male *Eristalis nemorum* hovering above a female is relatively commonplace and is a regular subject for wildlife photographers. Occasionally stacks of two, three or even more males above a single female are recorded and photographed. The precise purpose of these stacks has always been a matter of conjecture, although it has often been interpreted as "mate-guarding".

During the summer of 2016 I spent many hours watching this behaviour at one of my South Hetton "patches". My observations led me to conclude that "mate-guarding" was unlikely. No evidence of aggressive behaviour was observed when a "rival" male arrived. Furthermore, several males stacked up above a female also suggests that males do not challenge possible interlopers. Another thesis is that males hover above a female in preparation to mating. My observations suggest that more complex behaviour is involved.

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All of the males I observed seemed to have a set flightpath through and around the patch of flowers I was watching. This flightpath was only interrupted when something of interest was spotted on a flower or leaf. I say "when something of interest was spotted", because I have concluded that visual recognition only involves the identification of a possible target. If males recognised females on visual cues alone, then they would not start to hover above a range of other insects. In fact it is not unusual to see a male stop and begin to hover above flies, bees and other hoverfly species, both males and females. Two examples are shown in Figure 1. My records include definite touches on: *Bombus pascuorum, Eriothrix rufomaculata* and *Helophilus pendulus*.



Figure 1. Male Eristalis nemorum hovering above Eristalis pertinax (left) and Eristalis tenax (right)

When the male hovers above a female, it appears to be a continuous hover; in fact the hover is interrupted by sudden and lightning fast dives with all six legs outstretched to touch the subject with its feet (Figure 2). If the subject is not a female *Eristalis nemorum* then the male departs immediately and continues on its flight path.

This investigative behaviour is not aggressive; this suggests that the male is using its feet to determine whether the subject is a female *E. nemorum*. If the male "touches" a female *E. nemorum*, it immediately goes into a sustained hover. Even these prolonged hovers above the "correct" target are interrupted by dives, with outstretched legs, onto the female. I suspect that these dives are performed in order to establish the female's state of readiness to mate. It was not uncommon to see two males performing these dives/touches on the same female.



Figure 2. Male Eristalis nemorum "touching" female Eristalis nemorum

The result of this diving behaviour had different outcomes. Sometimes, the male would fly off after a few dives; meanwhile, the female would either crawl beneath the flower, as if to get out of the way, or it would take off into the vegetation with the male in pursuit. This could be read as:

- the male has detected that the female isn't ready to mate and so goes off in search of another female;
- the female isn't ready to mate and simply wants to get away from the male's attentions; or
- the female is ready to mate, takes off and leads the male into a more secluded area.



Figure 3. Two males checking out the same female

More observations are needed to be completely sure of the purpose of male *Eristalis nemorum* hovering above females. Nevertheless, I believe that my initial observations point to this behaviour occurring prior to mating rather than after mating.

New upland hoverflies found in south-west England.

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This year two species of hoverfly have been found in south-west England for the first time, both in Devon, one on Exmoor and one on Dartmoor.

On a visit to Exmoor's Brendon Common (SS780455) on the 27th July 2016, I found a male specimen of *Platycheirus nielseni* as well as a few probable females. This was confirmed by Roger Morris as the first reliable record from the South West, with others referring to female specimens that are difficult to separate from *P. peltatus*. The 2011 Hoverfly Atlas shows *P. nielseni* being predominantly found on moorland at higher altitudes and having a strongly northern distribution including North Wales, North England and most of Scotland. On the same visit I also found 12 specimens of *P. ramsarensis*, another upland specialist which has previously been recorded on both Exmoor and Dartmoor, but not yet on Bodmin Moor.

A note was posted on the Devon Fly Group's Yahoo Newsgroup to alert others to the potential of finding *P. nielseni* high up on Exmoor and Dartmoor, which prompted discussion of other upland hoverflies of note in Devon.

A Devon Fly Group field meeting at Throwleigh Common on north-west Dartmoor nine days earlier (16th July) found three specimens of *P. perpallidus*, one at Kennon Hill Mire (SX645900), one at Raybarrow Pool (SX640903) and another at Cheriton Coombe (SX646909). This is another predominantly northern and western species not previously recorded in the region. At the same meeting three *P. occultus* and two *P. ramsarensis* were found. On 25 July Rob Wolton visited Foxtor Mire (SX617706), an outstanding acidic valley mire system on Dartmoor with extensive sedge beds, and found no less than eight *P. perpallidus*, along with three *P. ramsarensis* and one *P. occultus*.

A further record of note was of *P. scambus*, Rob finding a male on a mire (SX553743) below King's Tor, near Merrivale on Dartmoor on 30 July 2016. This species had previously been recorded from Exmoor and once in north Devon at Marsland (SS222173) by myself in 2013 but not elsewhere in south-west England: it is seldom found in southern England.

P. occultus is not restricted in Devon to upland sites by any means. I have found it at Tidcombe Fen near Tiverton, which is a base rich site at a mere eighty three metres above sea level. The species is also frequent on Culm Grasslands in northern Devon.

I hope this note serves to encourage others to seek out acidic habitats at higher elevations in the south, which could serve as altitudinal 'islands' for relict northern species.