

# Newsletter No. 22

## Autumn 2017

### Goodbye!

#### Adrian Plant

It is now about 25 years since I took over the Empidid and Dolichopodid Recording scheme. In those days, it was a 'Study Group' initiated by Roy Crossley and Anthony Bainbridge and by the time I came on the scene they had amassed a few thousand records on the old recording cards. These I digitised and set about adding new records from my own field notebooks, and from anyone I could cajole into submitting records. Back then, the majority of data came from a very small band of E&D enthusiasts but as the years have passed an increasing (but still rather small) number of recorders has emerged and the dataset now boasts about 85,000 records for empids and not far off that number for dolichopodids. My interest has focussed mostly on Empididae and Hybotidae and I rather let Dolichopodidae take the back seat in my efforts to cajole, collect and collate records. This inevitably resulted in the dolis getting left behind in the records league table but fortunately in recent years Martin Drake has stepped into the breach and his concentration on dolis means that the gap is now closing fast.

For much of the last dozen years, it has been fortunate that my employers at National Museum of Wales were sympathetic to me spending at least a little of my time on E&DRS matters. Sadly, such enlightened times are long gone – as has my job at the Museum. I will soon be setting off for a new life in Thailand where I have accepted a position at Mahasarakham University. Many years back, I worked in New Zealand and it was there that my dipterological interests crystallised with empidoidea; the fauna was large, fascinatingly bizarre and very poorly known. There is a pleasing symmetry in relocating to Thailand where the fly fauna is, if anything, even less well known than that of New Zealand (I have ~500 undescribed species from a study site I already work on over there!). I look forward to exciting fly-times!

The E&DRS is very fortunate in that Steve Hewitt has agreed to step in as co-organiser with Martin Drake. Steve will champion Empididae and Hybotidae while Martin will continue with Dolichopodidae, although all empidoidea records can be sent to either of them (contact details appear elsewhere in the Bulletin). I will continue to maintain an interest in British empidoidea; they are a fascinating group and we still have so much to learn about them I particularly hope that we will soon initiate an Atlas Project to summarise

what we know of empidoidea in the UK. The data is of sufficient quantity and quality to make meaningful analysis of distributions, habitat, phenology etc. for many species and I hope to have some part in that project.

I think the E&DRS will have a rosy future. Empidoidea are very abundant, have fascinating life-histories and behaviours, and are very speciose; even in the UK, there are likely to be at least 30 undescribed species awaiting discovery, or so the statistics say. We are fortunate in having good keys and descriptions of most species and, with a few exceptions, identifications are not too difficult. They surely deserve a wider following than they currently have.

#### Adrian Plant's publications using E&D Scheme data

Plant, A.R. 2003. Phenology of Empididae and Hybotidae (Diptera) in Great Britain. *Dipterists Digest (Second Series)* **10**, 13-20.

Plant, A.R. 2004. *Hilara* Meigen (Diptera: Empididae) in Britain: a provisional synopsis of distribution, habitat preferences and behaviour. *Acta Universitatis Carolinae Biologica* **48**, 165-196.

Plant, A.R. 2005. Climatic change and insect populations: correlation of the North Atlantic Oscillation with abundance of Empididae and Hybotidae (Insecta: Diptera: Empidoidea) in Great Britain. *International Journal of Dipterological Research* **16**, 227-231.

Plant, A.R. 2014. Current patterns and historical origins of endemism in British Empididae (Diptera). *Dipterists Digest (Second Series)* **21**, 89-101.

Plant, A.R., Jonassen, T., Grootaert, P., Meyer, H., Pollet, M. and Drake, M. 2017. The arrow points north - endemic areas and post-Devonian assembly of the British Empidoidea fauna (Insecta: Diptera). *Biological Journal of the Linnean Society* **20**, 1-17.

### Hello!

#### Stephen Hewitt

Taking over as scheme organiser for Empididae and Hybotidae in place of Adrian Plant is obviously a tough act to follow. Adrian has set the bar very high with his provision of keys to aid recording the British fauna and through his analysis of the Scheme data to generate fascinating insights on the status and distribution of species and communities. Thankfully he has promised to stay in touch with help and advice. My own knowledge is much more limited, although

my interest goes back over several years of collecting in northern England and Scotland. I have taken particular interest in the Hybotidae initially stemming from my studies on flies on exposed riverine sediments, but have also looked at both families in woodland and upland habitats. I look forward to getting to grips with the database and working with Martin on the Scheme. And of course I hope that you will send in any records that you have – past or present.

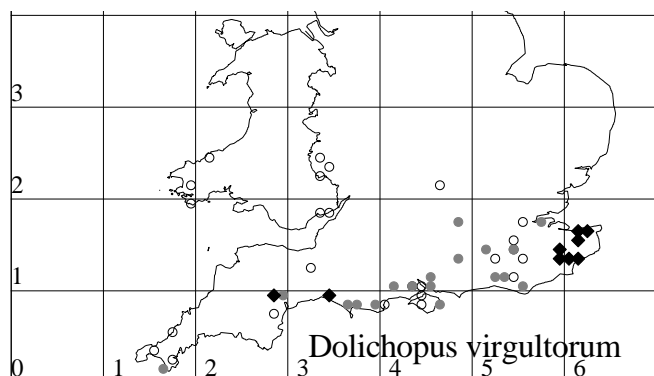
## 2016 was the year of *Dolichopus virgultorum*

Martin Drake

This *Dolichopus* appears to be genuinely on the northern edge of its range in Britain and the infrequency of records pointed unambiguously to a nationally scarce species (in the old pragmatic sense of Nationally Scarce, not the latest rigid interpretation by Natural England). However, during 2016 in Kent, Devon and nearby areas in Dorset I recorded it at 12 sites compared to just six sites in the previous 30 years of collecting. At one Dorset site it was the commonest *Dolichopus*. I also received several records from other contributors to the E&D scheme in 2016 compared to the dribble of records from across southern England in previous years (compare black diamonds for 2016 with grey dots for 1990-2015 on map). The sudden explosion of this species across the breadth of its range may be a manifestation of warming climate, although it was clearly found further north before 1990 (open circles on map) when global warming was less frequently invoked to explain range changes. Its habitat appears to be anywhere shaded, with or without streams, but with more records from moderately dry deciduous woodlands; just a few are from more open places such as scrubby grassland and even acid mire and a brackish lagoon. Haliday, who described *virgultorum* from Ireland in the mid 19th century, clearly thought that it lived in shrubby places since the epithet means bush, thicket or shrubbery. Verrall (1904) had a similar understanding, saying "they also seem to me to avoid marshy districts and occur on shrubs growing on the dry banks at the sides of country lanes." Verrall's country lanes are now our green lanes and tracks, which does not quite equate to the habitat where we find *virgultorum* today. Anyway, 2016 is the year of the bush fly.

### References

Verrall, G.H. 1904. List of British Dolichopodidae, with tables and notes. *Entomologists monthly Magazine* **40**, 164-173, 194-199, 223-228, 241-245.



## *Thinophilus* and *Aphrosylus* problems

Martin Drake

Females of our two *Thinophilus* are sometimes misidentified. They are like chalk and cheese when side-by-side, and do not even seem to belong to the same genus. The problem lies in d'Assis-Fonseca (1978) using as his first character the number of humeral (postpronotal) setae. Not only are these difficult to see but the numbers one is asked to count appear to be wrong. This character originated in Becker's (1917) monograph, and was repeated by Parent (1938) and d'Assis-Fonseca. It was not used by Negrobov (1979) in *Die Fliegen der palaearktischen Region*, and I do not use it in my new key presented at the end of the newsletter. There is a faint but unrealistic explanation that this is actually the wrong character, and that Becker meant the pronotal setae below the humerus, which are stout long pale and conspicuous in *flavipalpis*, and rather sparser in *ruficornis*, but the descriptions in these works do not point to such a simple mistake.

I gave a poor map of *T. ruficornis* in *E&D Newsletter* **18** (2013); here are better maps for both species. Any inland records will almost certainly be errors for these obligatory saltmarsh species.

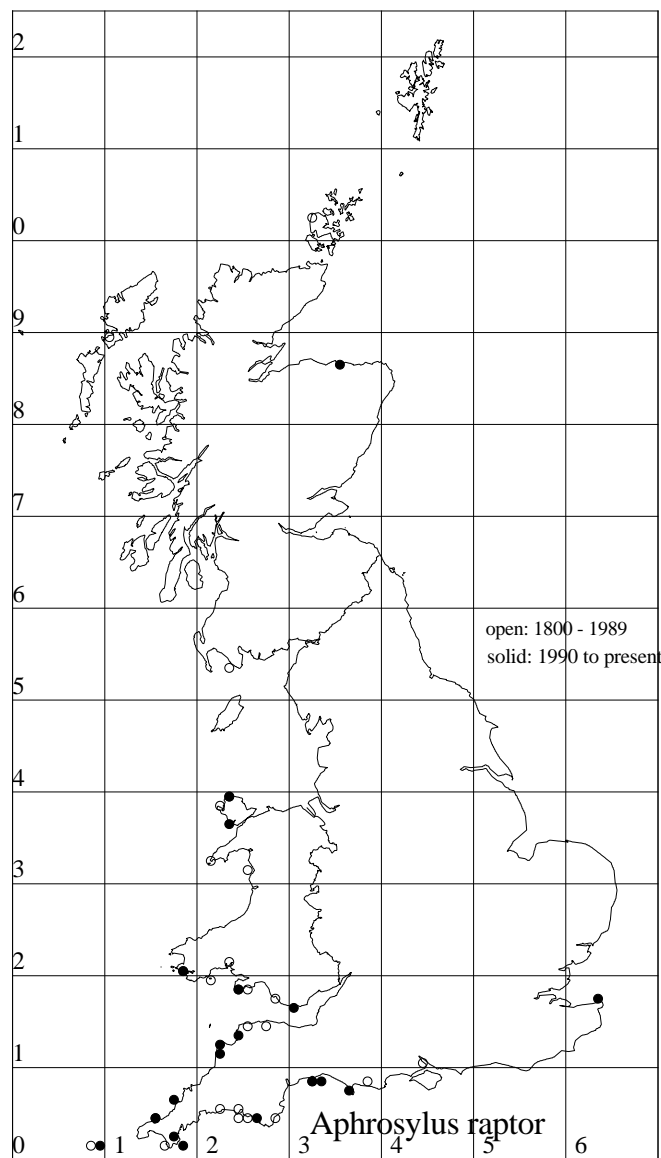
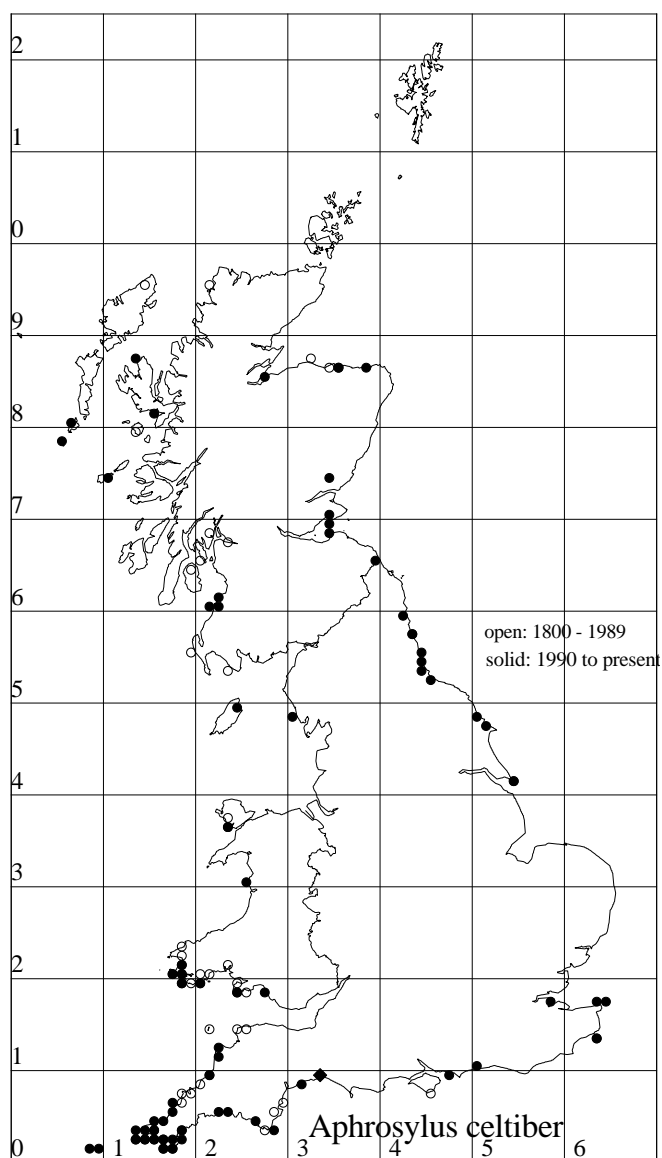
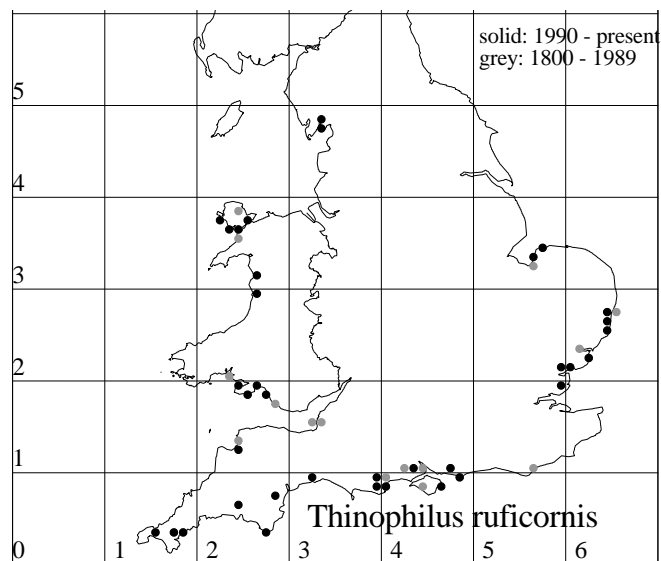
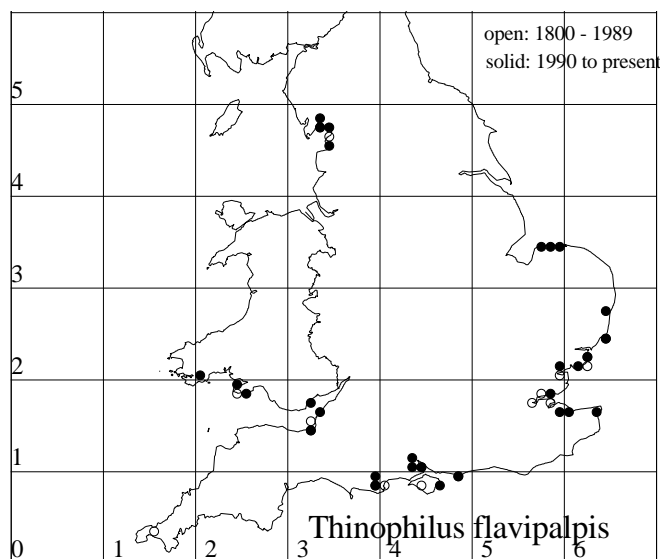
*Aphrosylus* is another obligate halophile; all our four species live on coasts, usually rocky shores, but *A. mitis* is found more often in more muddy sheltered places. There are two pairs of species, one big, the other very small. But the big pair, *celtiber* and *raptor*, can be easily misidentified using available keys, even as males which show few sexual differences. Species of the small pair are easily separated. Both sexes of all four species are easily accommodated in a single key, and I provide a belt-and-bracers version at the end of the newsletter; it has more characters than needed but at least it will work for the most battered of specimens.

Here are maps for *A. celtiber* and *A. raptor*. The former is the more common species, even in south-west Britain where they occur together. The sparse records for *A. raptor* away from the south-west (Kent, Aberdeenshire, Hebrides, Orkney) suggest errors to me - I may be wrong, but it would be good to establish whether both species are truly found around all the British coast. *Aphrosylus celtiber* larvae feed on the common barnacle *Chthamalus montagui* Southward (Poulding, 1998), but whether other barnacles are attacked, or even whether other species of *Aphrosylus* feed on them is unknown - see, for instance, Roy Crossley's suggestion that *A. ferox* may develop on completely different prey (*E&D Newsletter* **20**, p6, 2015). It is bizarre enough that a fly should feed on barnacles, so it is probably too speculative to suggest that *A. raptor*, whose apparently south-west distribution coincidentally matches that of another common barnacle, *Perforatus perforatus* (Bruguère), may be limited by feeding on just this species out of the six common and more widespread barnacles on British coasts.

### References

Assis Fonseca, E.C.M. 1978. Diptera Orthorrhapha Brachycera Dolichopodidae. *Handbooks for the Identification of British Insects* **9** (5). Royal Entomological Society, London.  
 Becker, T. 1917. Dipterologische Studien, Dolichopodidae, Nova Acta. Part 1 *Abhandlungen der Kaiserlich Leopoldinisch-Carolinischen Deutschen Akademie der Naturforscher* **52**, 113-361.

Negrobov O.P. 1979. Dolichopodidae. In: Lindner, E. (Ed.) 1979. *Die Fliegen der palaearktischen Region* 29, 475-530. Schweizerbart, Stuttgart.  
 Parent, O. 1938. Diptères Dolichopodidae. *Faune de France* 35. Lechevalier, Paris.



## Difficult females

### Roy Crossley

1 The Cloisters, Wilberfoss, York YO41 5RF  
roycrossley@btinternet.com

In an old store-box where I deposit dolichopodids that have me baffled, is a section headed 'difficult females'. These belong to species-pairs which I find hard to distinguish and I have now reached the conclusion that some of them cannot be reliably separated using the Fonseca (1978) 'Handbook'.

The following are those which have given me most anguish in the past, and which I have now re-examined:

*Dolichopus latilimbatus* / *nubilus*; *Gymnopternus brevicornis* / *celer*; *Rhaphium appendiculatum* / *caliginosum*; *Chrysotus femoratus* / *neglectus*.

Martin Drake has reminded me that two of the pairs (*D. latilimbatus* / *nubilus* and *C. femoratus* / *neglectus*) were included in a more extensive review of difficult species by Jon Cole in an early issue of this Newsletter (No. 3, March 1987 – edited by me), and which I had quite forgotten about when preparing the first draft of this note.

#### *Dolichopus latilimbatus* / *nubilus*

I have 10 specimens in my collection standing under *D. latilimbatus* and 7 standing under *D. nubilus* and after measuring overall body lengths I looked at three characters listed in the Fonseca key (couplet 21, p.28): 1 – extent and intensity of colouring towards the apex of the hind tibia; 2 – position of bristles on mid-tibiae; 3 – costal length between radial and cubital veins.

Of the 10 I had previously named '*latilimbatus*' only 6 clearly possessed all three characters, and of the 7 named '*nubilus*' only 2 possessed all three characters. The remaining 9 specimens did not possess all three characters of either species and thus they cannot be reliably assigned to either. All the '*nubilus*' specimens were from brackish coastal or estuarine sites along the Humber bank where the species is often abundant. Only one of the '*latilimbatus*' was from such a site, the remainder being from a variety of inland localities.

In his 1987 note, Jon commented that he does not think that isolated females of these two can be separated with certainty, and I think that remains the case.

#### *Gymnopternus brevicornis* / *celer*

In Yorkshire *G. celer* is found more often than *G. brevicornis* and the separation of males is simple. However, I find females impossible to separate; unless, of course, I am only ever looking at the same species! The two distinguishing characters used by Fonseca are the comparative length of the arisal hairs and the colour and length of the facial hairs. In all the specimens I have examined I have had difficulty in seeing any, or very few, facial hairs, and then I have not been able to tell if they are dark or light – maybe it's my eyes, my microscope or the angle of light! As to the arisal hairs, all seem to be the same length on every specimen – perhaps I truly do see only one species. The problem is that the ones I have looked at recently all run to *brevicornis*, yet the only (numerous) males from the same site are *celer*! Pollet (1990) ignores the antennal hair lengths in his key, but uses the facial (epistoma) hairs as the principle character, with further characters

relating to the colouration of the legs. I am not at all sure how consistent is this latter character. Again, all the specimens I have examined seem to lean towards *brevicornis* from dominantly *celer* sites.

#### *Rhaphium appendiculatum* / *caliginosum*

The single character used by Fonseca to separate these two is the shape of the cubital vein as it approaches the wing margin. Many years ago Neville Birkett told me that separation was easy because of size difference between the two species. I have recently re-examined the (provisionally) named specimens in my collection and the body-lengths range as follows: *appendiculatum* 3.3mm-3.7mm (9 specimens); *caliginosum*: 2.8mm -3.6mm (17 specimens). As to the curvature of the cubital vein, I have specimens where this vein runs straight to the wing margin, but there is a downward curvature of the discal vein which makes the gap between the two wider than if they were parallel. In addition, I have seen a specimen where there is a slight curvature of the cubital vein on one wing, but not on the other. Also in some cases it seems as if the presence of the curvature appears to be clearer, or less so, depending on the angle at which the wing is viewed. It might be my microscope or my age-related diminishing eyesight, but I am not convinced that these two can be reliably separated on this single character.

#### *Chrysotus femoratus* / *neglectus*

Fonseca separates these two on the single character of the shape of the hind margin before the tip of the postical vein. I have in my collection of 13 specimens (none of which I attribute with certainty to either species), only one example in which this character is clear. Again, there are some which might or might not show a slight bulge depending on the angle of view, but I consider this to be an unreliable character. Jon Cole regarded the hind marginal contour as a 'doubtful character'.

Finally I would add that I have doubts about the separation of some female specimens of *Argyra perplexa* / *argentina* – size might be a help with these two.

### References

- Assis Fonseca, E.C.M. 1978. Diptera Orthorrhapha Brachycera Dolichopodidae. *Handbooks for the Identification of British Insects* 9(5). Royal Entomological Society, London.
- Pollet, M. 1990. Phenetic and ecological relationships between species of the subgenus *Hercostomus* (*Gymnopternus*) in western Europe with the description of two new species (Diptera: Dolichopodidae). *Systematic Entomology* 15:359-382.

[editor's note: I concur with Roy and Jon. If recorders noted the sex of their specimens, I can one day eliminate dubious records based on females from maps. MD]

## Dolichopodids from the Dipterists Forum summer meeting at Kent, 2016

### Martin Drake

This was a most productive meeting. Our total was 121 species among about 4,900 specimens, in 19 hectads, so that made a difference to the distribution dots in VC15. Most of the widespread species were that you might expect to find but the exception was *Dolichopus virgultorum*, as discussed in another article in this newsletter. It ranked 13th in terms



of the number of records, beating another 23 species of *Dolichopus*. Among other uncommon species was *Dolichopus calinotus*, new to Britain (see *Dipterists Digest* 23, 231-236) and *D. excisus* which must remain 'data deficient' in terms of allocating a rarity status, although it is now known from seven hectads from Dorset to Suffolk. Among other species which will be given an IUCN threat status in the forthcoming status review are *Argyra grata*, *Campsicnemus magius*, whose discovery at Graveney and Rushenden Marshes was much appreciated, *Dolichopus arbustorum* (a *virgultorum* look-alike), *Poecilobothrus ducalis* at Shellness and *Thrypticus smaragdinus*. Kent is the best recorded area for three of these, since two of them (*C. magius*, *P. ducalis*) are saltmarsh species and the Thames estuary marshes include among the best of this habitat in Britain – see my article on *C. magius* in E&D Newsletter 20 (2015). *Argyra grata* is also better recorded in Kent than elsewhere in Britain, and during this field meeting we found it at four sites (Bysing Wood, Denge Wood, Larkey Valley Wood and Stodmarsh). Most people dislike *Thrypticus* because they are difficult to identify but *T. smaragdinus* is not only the largest species in the genus but has unmistakable genitalia. Its record from Graveney Marshes spans the gap between well known populations in the Norfolk fens and an isolated population in Poole Harbour, Dorset. Three more species are nationally scarce: the coastal species *Aphrosylus mitis* (second Kentish record), *Chrysotus collini*, apparently confined to Sheppey and just across the water at Chetney Marshes, and *Sciapus laetus* which is also known from the Thames marshes but on the Kentish side only.

Perhaps the most interesting habitat was, inevitably, coast marshes where many saltmarsh specialists were found. Among those not mentioned above were *Dolichopus sabinus*, *D. signifer*, *D. strigipes*, *Poecilobothrus principalis* and *Thinophilus flavipalpis*, along with commoner saltmarsh species.

## ***Tachytrechus insignis* habitat**

### **Martin Drake**

In E&D Newsletter No. 18 (2013), I suggested, with a query by it, that *Tachytrechus insignis* may be coastal in Britain. Peter Kirby wrote soon afterward to say that all his records were inland and overwhelmingly from sand and gravel pits with bare sand or sandy silt with low organic content. During this summer's (2017) Dipterists Forum field meeting based at Snowdownia, some of us visited an extraordinary pioneer dune slack at Morfa Dyffryn. After trekking across a desert (so it seemed) of completely bare sand, we came to a circle about 80m across of damp sand with about 10% vegetation cover. Here the commonest fly was *T. insignis*, running around and cavorting with each other – males displaying, females rejecting amorous advances. A very approximate density was 'several per square metre' although obviously rather difficult to estimate accurately. So this confirms Peter's observation about this species liking bare sandy sites at a very early stage in succession. Thanks to Mike Howe for showing us this extraordinary site and Rob Wolton for the photographs.



## **'The Naturalist'**

### **Roy Crossley**

roycrossley@btinternet.com

In recent years I have published short notes on dolichopodids in *The Naturalist*, the journal of the Yorkshire Naturalists' Union, which is perhaps not so well known beyond northern England as it deserves to be. However, I am delighted to report that the complete run of the journal, from 1864, is now available to view online (<http://www.ynu.org.uk/naturalist>). There is a two year embargo on making volumes publicly available, so the 2016 articles cannot yet be viewed online; however, I do have pdf's of these and will provide them on request.

These recent contributions are:-

Notes on the distribution and habitat associations of dolichopodid flies in Yorkshire. *Nat.* Aug. 2014 vol.139 No.1086 pp.108-112

The dolichopodid flies of North Cave Wetlands, a former sand and gravel quarry. *Nat.* Dec. 2014 vol.139 No.1087 pp.172-179

Notes on the dolichopodid flies of two contrasting Yorkshire bogs. *Nat.* Aug. 2015 vol.140 No.1089 pp.128-131

Notes on the Diptera of a Yorkshire lowland heath. *Nat.* April 2016 vol.141 No.1091 pp.20-24

The genus *Campiscnemus* in Yorkshire. *Nat.* Aug. 2016 vol.141 No.1092 pp.99-100

I would add that there is a vast wealth of dipterological material contained in the pages of *The Naturalist* over the past 150 years or so, mostly of course to do with the north of England generally, and Yorkshire in particular.

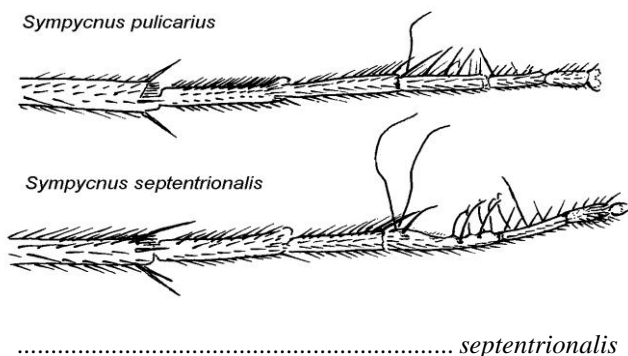
## Sympycnus ‘desoutteri’ again

Martin Drake

In *Dipterists Forum Bulletin* No.81, p7, Roy Crossley drew attention to the demise of the name *S. desoutteri* Parent which is now a synonym of *pulicarius* (Fallén) (Pollet *et al.* 2015). The complication is a very similar new species, *septentrionalis* Pollet, recorded rarely in Britain. I’m still receiving records for ‘*desoutteri*’ which I’m interpreting as *pulicarius*, but we should all check those tediously abundant specimens for the new species. I’ve yet to find it. Here is my key version of the characters used to separate them, together with the drawing I presented in the Bulletin based on the photographs in the paper. The authors recognise that females are probably impossible to separate reliably but I give the characters they suggest may differentiate the two species.

### Males

- 1 Mid tibia with postero-ventral seta at apical third (rarely absent); hind tarsal segments 2 and 3 equal in length; third segment even in width viewed from above, with two basal setae 0.8 times as long as segment’s length, and 3-5 setae postero-dorsal setae spaced evenly along shaft, each about half the segment’s length. .... *pulicarius*
- Mid tibia without postero-ventral seta; hind tarsal segment 3 slightly longer than segment 2 (1.1 times); third segment flattened on the apical two-thirds so appears narrower distally when viewed from above, with two basal setae about 1.2 times segment’s length; along pd side are 1-2 setae at the extreme base, followed by bare zone then several mixed black and white setae in apical half, each up to half the segment’s length.

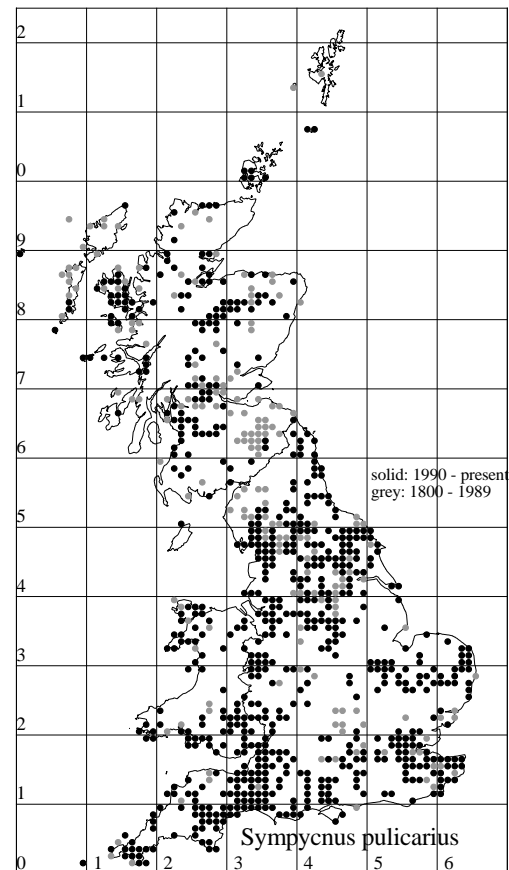


### Females

- 1 Postpedicel (third antennal segment) as long as wide; front coxa dark with apical quarter to half yellow; hind coxa external seta always black. .... *pulicarius*
- Postpedicel blunt-ended; front coxa dark with apical sixth yellow; hind coxa external seta usually black but sometimes white. .... *septentrionalis*

### References

Pollet, M., Persson, M., Bøggild, E., & Crossley, R. 2015. A long-lasting taxonomic problem in European *Sympycnus* resolved, with the description of a new species and data on habitat preferences. *Zootaxa* **4032**, 81-102.



## Acknowledgements

Thanks to those who submitted dolichopodids records in 2015 (Andrew Cunningham, Colin Le Boutillier, Dave Brice, Derek Whiteley, Howard Bentley, John Coldwell, Laurence Clemons, Murdo Macdonald, Nick Riddiford, Peter Vincent, Phil Brighton, Richard Dixon, Rob Wolton, and others I’ve forgotten to mention).

## Contacts

Empidids .....  
 Stephen Hewitt - 28 Castle Drive, Penrith, Cumbria CA11 7ED  
 smhewitt@hotmail.co.uk

Dolichopodids .....  
 Martin Drake - Orchid House, Burrigge, Axminster, Devon EX13 7DF  
 martindrake2@gmail.com



## Key to species of *Aphrosylus*, both sexes

Wing lengths are measured from cross-vein h so are about 10% shorter than the whole wing.

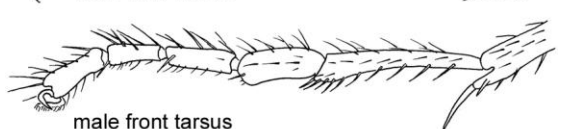
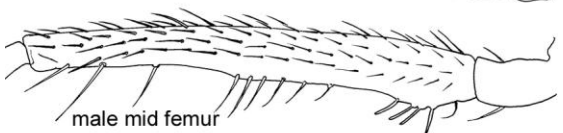
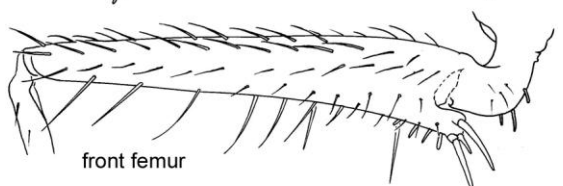
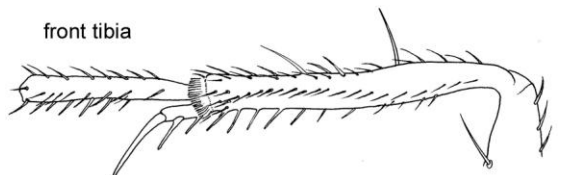
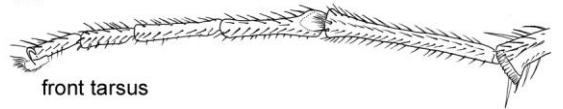
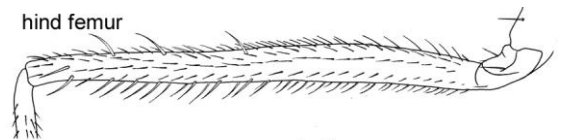
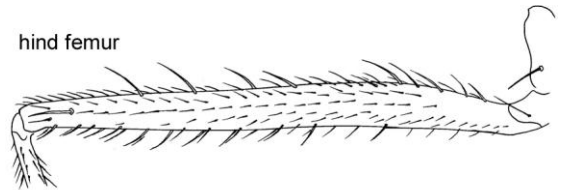
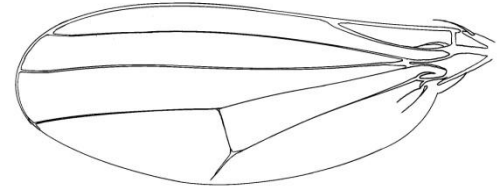
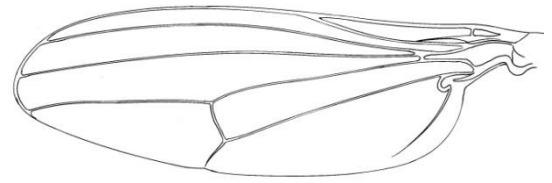
- 1 Large species, wing length at least 3.5 mm, usually about 4.5 - 5 mm; wings narrower, on average nearly 3 times as long as wide; 5-7 dc setae. 2

- Much smaller species, wing length less than 2.5 mm; wings broader, on average 2.5 times as long as wide; 4 dc setae. 3

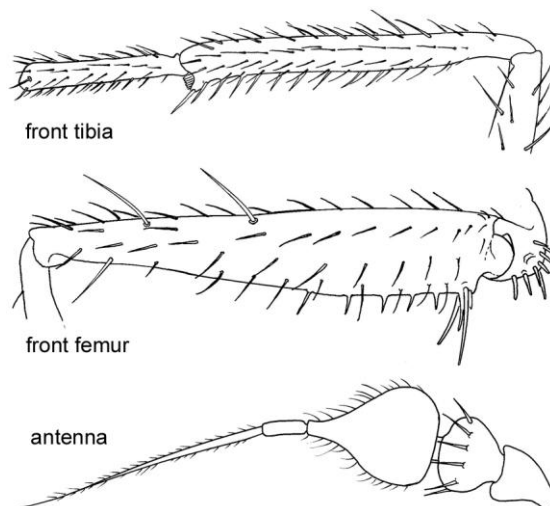
- 2 Tergite hairs stouter and less dense, forming about three ranks along each tergite, those on side of tergites as strong and long as pv and av setae of hind femur; mesonotum with shifting patches of almost black sub-shining ground colour showing through dull pale dusting when tilted back-and-forth viewed from above; hind femur with anterodorsal setae forming an interrupted row from base to tip with 4-5 dorsal setae usually distinctly differentiated from general covering of setulae at base; **male**: second segment of front tarsus dilated in basal half to two-thirds; wing length ♂ 3.8-4.8 mm, ♀ 4.5-5.1 mm. *celtiber*

- Tergite hairs finer and denser, forming about 4-5 ranks along each tergite, those on side of tergites clearly finer than pv and av setae of hind femur; mesonotal pattern, viewed as above, not becoming sharply demarcated, even in anterior view not showing almost black patches; hind femur anterodorsal setae becoming smaller and almost indistinguishable from general covering of setulae in basal quarter; **male**: second segment of front tarsus swollen at base only; wing length ♂ 4.7 mm, ♀ 5.0-5.6 mm. *raptor*

- 3 Front tibia with an extension at apex beneath bearing a spur at tip; front femur with two equally stout setae at the extreme base beneath, no outstanding pd setae but pv setae in apical half at least as long as width of femur where they arise; hind femur with one ad pre-apical seta; third antennal segment conical, not tapered into an extension; mesonotum in dorsal view with no undusted midline running entire length; **male**: hypopygium large, deeper than depth of abdomen; mid femur with irregularly spaced pv setae, with clusters in basal quarter and mid point and 2-3 setae in apical quarter; hind metatarsus with at least 4 fine dorsal hairs, most being twice width of segment; front tarsus with 1st and 2nd segments swollen below; wing length ♂ 1.8-2.1 mm, ♀ 2.2-2.5 mm. *ferox*

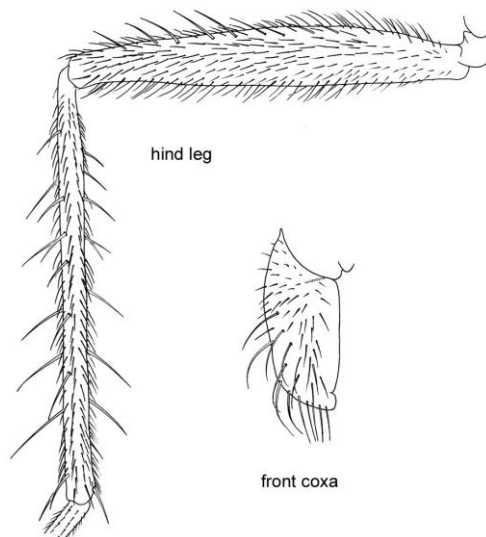


- Front tibia simple at apex; front femur with one stout seta and sometimes another half as long at the extreme base beneath, 2-3 long pd setae in apical half but pv setae inconspicuous, much shorter than width of femur, 2-3 long pd setae; third antennal segment bulbous with narrow drawn-out apical extension not clearly distinct from arista; **male**: hypopygium tiny and hidden; mid femur with regularly spaced pv setae; hind metatarsus without long hairs; front tarsus unmodified; wing length ♂ 1.6-1.8 mm, ♀ 2.0-2.3 mm. *mitis*



### Key to female *Thinophilus*

- 1 Front coxa black, all hairs black with some stout and long; hind femur with row of 7-8 antero-dorsal setae; tibial setae dense and robust, hind tibia with row of strong ventral setae; femora usually black but may be entirely brownish yellow; large species, wing-length 5.2-6.0 mm. *flavipalpis*



- Front coxa yellow with mainly fine short pale hair, black hairs only at apex and outer edge; hind femora with a single antero-dorsal seta at apical fifth; tibial setae sparse and weak, hind tibia with only 2-3 antero-ventral setae; femora always entirely yellow; small species, wing-length 3.0-3.8mm. *ruficornis*

