

**LEICESTERSHIRE & RUTLAND
ENTOMOLOGICAL SOCIETY**

**The status of Diptera in
VC55**

**Ephydriidae
(Shore Flies)**



Limnella quadrata, Anstey 2020 (Mike Higgott, NatureSpot)

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PREFACE

This LESOPS continues the reviewing of the occurrence of the Diptera in Leicestershire & Rutland (VC55) in order to encourage future recording effort. However, this issue includes records to the end of 2023 as local recording of this group has mostly progressed in the recent past.

INTRODUCTION AND HISTORAL ASPECTS

The Ephydriidae, otherwise known as "Shore-flies", are unusual in that they seem capable of surviving and multiplying in habitats where many other insects could not. They tend to be associated with damp areas with breeding habitats including mineral and thermal springs, petroleum pools, hypersaline lakes, salt marshes and small carrion often being very numerous while some (of the *Discomyza* and *Platygyrnopa* genera) utilise both land and aquatic snails for breeding (Zatwarnicki & Mathis, 2007). The insects are usually dark coloured ranging in size from 1 to 11mm). Wing venation is fairly simple and may be plain or spotted. The Dipterists Forum (DF) rates the difficulty of identification as 3-4 requiring careful keying and sometimes referral to more experience entomologists for confirmation and/or identification. Occasionally publications from the Victorian era have shown illustrations of members of the family (e.g. Curtis, 1824-1840).



Ephydra spilota (= *Ilthyea spilota*) (Curtis, 1824-1840)

Tracing the history of the recording of these flies in Britain has been difficult as they have received very little attention. One major exception was the work of A.H. Haliday who produced the earliest review of the family (which he named Hydromyzidae) with attempts to provide some aids to species identification mainly referring to the work by European authors, notably Meigen and Fallén (Haliday, 1839). His report noted occurrence of species in County Down, Northern Ireland with reference to a few other British localities although nothing from our region.

IDENTIFICATION

As mentioned above, some effort was made to enable identification of some of the Ephydriidae but it was not until Haliday produced his Northern Ireland report (Haliday, 1839) that descriptions of species (based on European work) allowed identification of species. However, since that time the number of British species has greatly increased; new British species have come from, for example, Skidmore (1996), Drake (2000,) Perry & Drake (2001) and Gibbs (2005). It was not until 2006 that usable keys to British species were produced privately by Martin Drake (Drake, 2006 updated to 2013, downloadable from the internet) that allowed more structured recording. More new species have been added to the British list since e.g. Gibbs (2006, 2022) and Clemons & Drake (2011). European workers have also added to our ability to identify British species including keys to their local areas where British species also occur e.g. Zatwarnicki & Mathis (2007) and Stuke (2021).

LOCAL RECORDING EFFORT

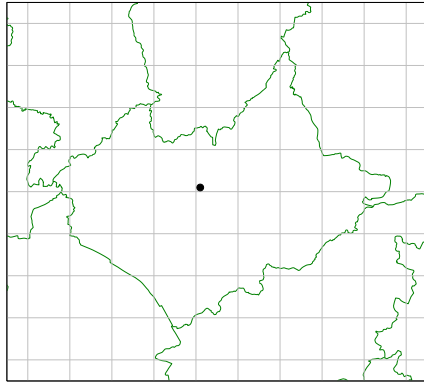
No mention of the family was made by George Crabbe (Crabbe, 1795) in his natural history review of the Vale of Belvoir or in the local Victoria History volumes (VCH-1 (1907); VCH-R, (1908)). The insect collection at the County Resources Centre (CRC), Barrow upon Soar, contains a few specimens of six species none of which originated locally. To date it would seem that recording of the Ephydriidae did not result in local records until a series of 7-day pitfall trappings on sites along the R. Soar was conducted by Derek Lott with identifications by Martin Drake (LRERC, 1996). Further records came from scattered sites elsewhere by Lott through sweep netting and vacuum sampling in 2005-6. Since that time recording of these flies has been sporadic mostly coming from experienced entomologists as part of contract surveys.

The Dipterists Forum lists 153 British species (as of October 2023) of which 44 have been noted in VC55 usually as singletons. Very few photographs are available at this time so that keying out remains the only way to reliably identify species although a few may be identifiable from images.

ANNOTATED VC55 SPECIES

Notes on the distribution of species have been drawn from the current data on the NBN Atlas.

Athyroglossa – Stuke (2021) describes and keys six European species of this genus with just two being currently noted from Britain and one from VC55.

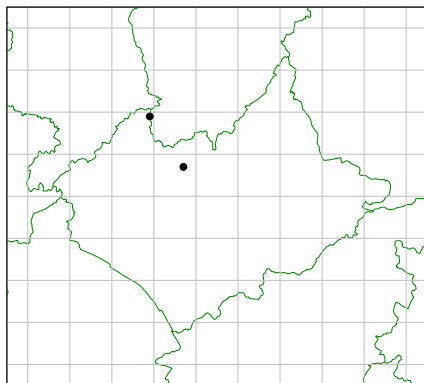


Athyroglossa glabra Meigen (1 record)

Basal two tarsomeres of all legs are yellow. Drake (2006 updated 2013) indicates that the thoracic dorsum is covered evenly with fine setae. The fly has been widely found in eastern areas of mid-Wales but only scarcely scattered elsewhere.

The sole VC55 record came from near Syston as part of survey work by Richard Wright in 2011.

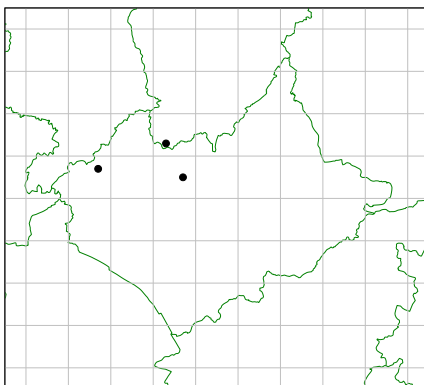
Coenia – separation of this genus from the closely-related *Paracoenia* was described by Mathis (1975) with this genus having three pairs of dorsocentral bristles whereas the *Paracoenia* have four pairs. While only considering North America species guidance to the British species was included. Drake (2006 updated 2013) separates the two British *Coenia* species both of which have been noted in VC55.



Coenia curvicauda Meigen (2 records)

Distinguished from the following species by protruding male abdominal structures. Scattered throughout Britain.

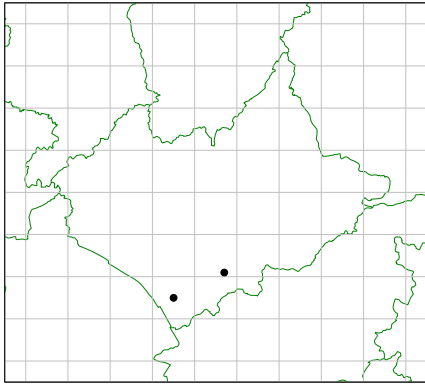
First recorded when swept from the R. Soar environs at Quorn by Derek Lott (2016) and again at Lockington Marshes SSSI in 2010 by Keith Alexander.



Coenia palustris Fallén (3 records)

A scattered British species.

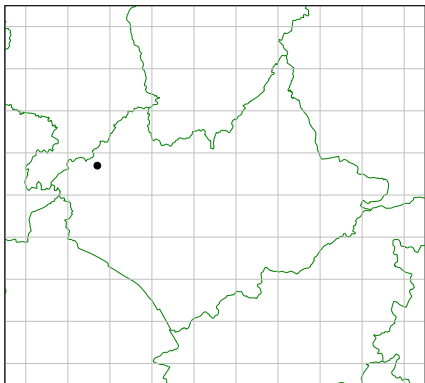
Taken in a pitfall trap near the R. Soar at Loughborough by Derek Lott on 1994 (id by Martin Drake), Found during the Mountsorrel Quarry complex survey of 2013 (Andy Godfrey) and again in 2020 (Andy Jukes) at a mitigation site near Ashby de la Zouch.



Discocerina obscurella Fallén (3 records)

The sole British member of this genus. Usually associated with muddy areas near freshwaters. Scattered throughout Britain.

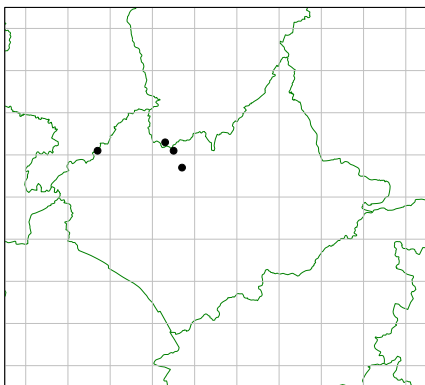
Only noted from the south of our area having been first seen in 2006 when swept by Derek Lott adjacent to Saddington Reservoir. David Gibbs noted the fly at two adjacent locations during his 2018 survey work in the Lutterworth area adjacent to water bodies.



Discomyza incurva Fallén (1 record)

The larvae of this genus (just one species in Britain) breed in terrestrial and marine snails (Zatwarnicki & Mathis, 2007). The flies are variable in size and generally have dark colouration. This fly seems to be limited to the western Palaearctic being associated with the Roman snail *Helix pomatia* which has only four historical local records the last recent being 1984 (NBN Atlas).

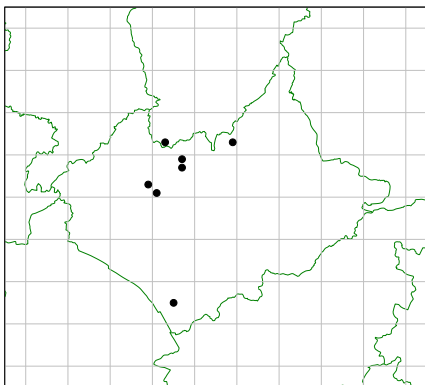
The only record of this fly came from a mitigation site near Ashby de la Zouch in 2020 when found by Andy Jukes.



Ditrichophora calceata Meigen (5 records)

Associated with freshwater habitats with two of the four British species having been noted in VC55. Front femur has a row of small, black, blunt spines (Drake, 2006 updated 2013). A blackish insect with the lack of dusting making the thorax seem more shiny. Scattered in Britain.

Four of the VC55 records came from survey work by Derek Lott (sweeping and pitfall trapping) along the R. Soar (LRERC, 1996). A further sighting came during a DF visit in 2015 to Dimmingsdale NR.

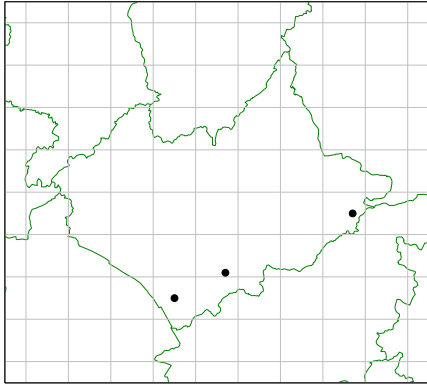


Ditrichophora fuscella Stenhammar (8 records)

Similar to the previous species but dusting of the thorax hides the shininess. Scattered in Britain.

As with the previous species, most of the records came from the work of Derek Lott (LRERC, 1996). Also seen during the DF 2015 visit to VC55 when seen in the vicinity of Old Dalby Wood and then again during survey work in 2018 in the Lutterworth area by David Gibbs,

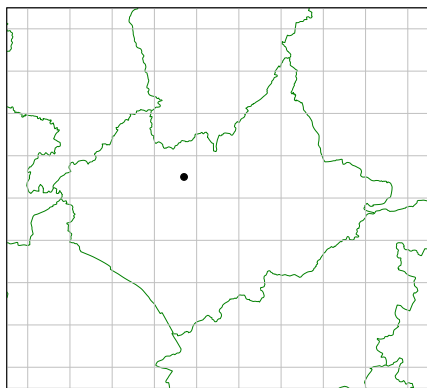
Hyadina – the five British species have been keyed out by Drake (2006 updated 2013) with all having tarsi which are at least partly pale. Examination of the scutellum is useful for correct identification as is the coloration of the palpi. The three species located locally are associated with freshwater habitats.



Hyadina guttata Fallén (3 records)

Scattered in Britain. Yellow palps and two clear areas on the posterior cross vein.

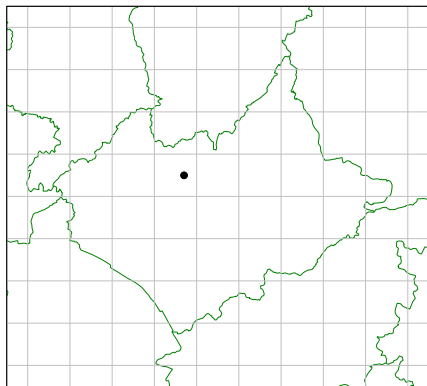
First note by Jonathan Cole at Ketton Quarry NR in June 2006 with another in the same month coming from Saddington Reservoir by Derek Lott (id Martin Drake). Seen by David Gibbs in the Lutterworth area during survey work in 2018.



Hyadina humeralis Becker (1 record)

Black palps and lacking the clear areas seen in the previous species. Scattered in England & Wales.

Noted during the 2012 Mountsorrel Quarry complex survey carried out by Andy Godfrey.

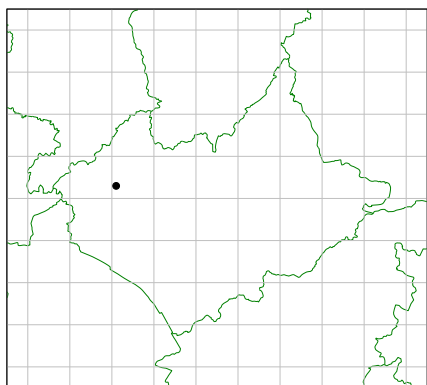


Hyadina scutellata Haliday (1 record)

Unlike others of the genus the scutellum is velvety black. Apparently a rare species with only four scattered records currently on the NBN Atlas.

Noted during the 2012 Mountsorrel Quarry complex surveys carried out by Andy Godfrey.

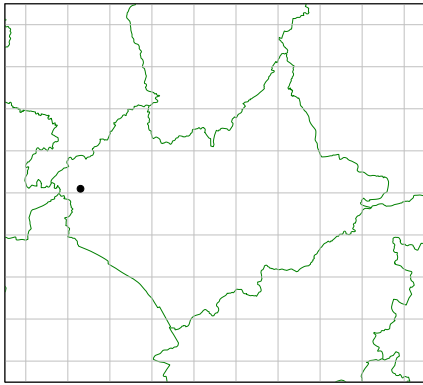
Hydrellia are leaf miners mainly of aquatic plants although there is some doubt whether this is exclusively the case as some have been associated with waterside vegetation. It would seem that all VC55 records are of adults with no information on the presence of associated leaf mining activity.



Hydrellia albilabris Meigen (1 record)

A leaf miner of Duckweeds (*Lemna*). Scattered across England & Wales.

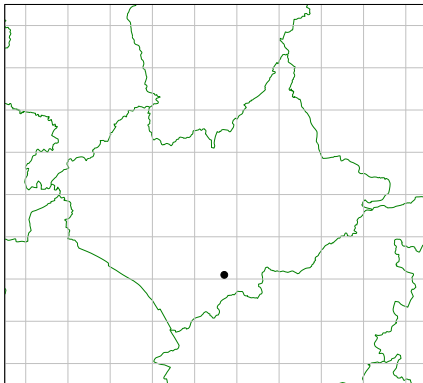
The sole VC55 record came from a pond at Kelham Bridge NR when netted by Derek Lott in 2006.



Hydrellia cochleariae Haliday (1 record)

A polyphagous leaf-miner utilising *Callitriche*, *Potamogeton* etc. Scattered across England & Wales.

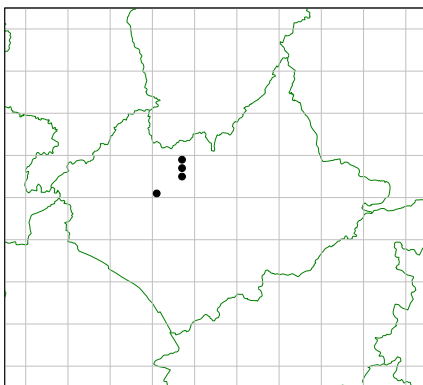
Locally the fly was found in the vicinity of a pond at a Measham brickworks by Andy Godfrey in 2006.



Hydrellia flavicornis Fallén (1 record)

A leaf miner of Water Plantains (*Alismataceae*). Most of the few national records come from eastern areas.

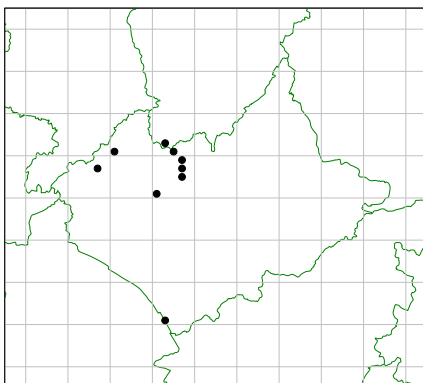
Derek Lott swept the fly in the environs of Saddington Reservoir in 2006.



Hydrellia griseola Fallén (5 records)

A polyphagous leaf-miner using water plants but possibly others e.g. *Daisy Bellis*. Globally a pest in rice-growing areas. Noted from across much of England & Wales but rarer elsewhere.

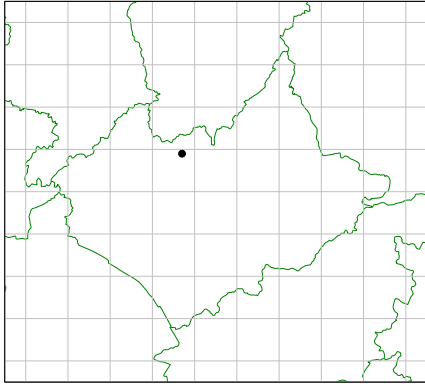
Derek Lott found the fly at four locations in 2006 with a further sighting by Andy Godfrey during his 2012 survey work in the Mountsorrel Quarry area.



Hydrellia maura Meigen (24 records)

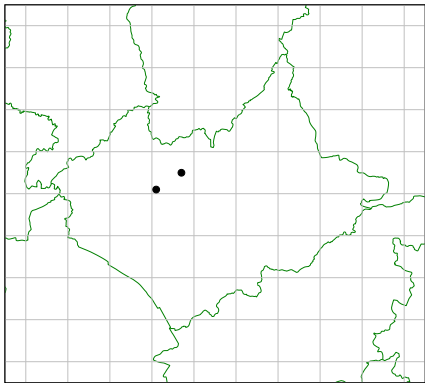
A widely occurring species of the genus being only associated with leaf-mining activities on *Potamogeton* species.

Most VC55 records come from field work by Derek Lott and during surveys by Andy Godfrey predominantly from the north-west of our area. A lone record from Shawell in the south of the area in 2014.

***Hydrellia nigricans*** Stenhammar(1 record)

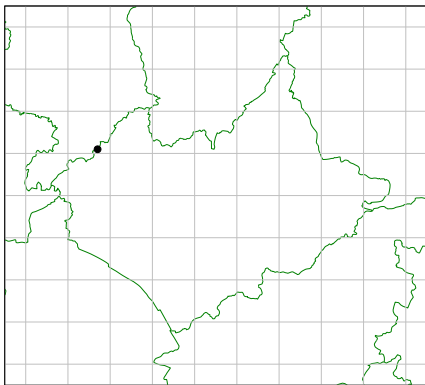
The few UK records come mainly from England. A leaf miner of *Juncus* (Rushes).

Swept by Derek Lott at Pillings lock by the R. Soar at Barrow upon Soar in 2005.

***Hydrellia thoracica*** Haliday (3 records)

Found scattered across England & Wales. Usually found as a leaf-miner of *Glyceria* (Sweet-grasses).

All VC55 records originate with Derek Lott having first been noted in a 1994 pitfall trap by the R. Soar near Barrow upon Soar. Found again at Lea Meadows NR adjacent to the R. Lin on two occasions in 2006.

***Ilythea spilota*** Haliday in Curtis (1 record)

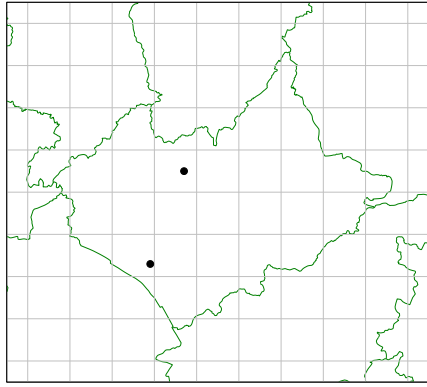
The sole British species of this genus which is scattered across Britain. Larvae feed on diatoms and may collect debris to form a protective case.

The only record for the fly in VC55 came during the 2015 visit to Dimmingsdale NR by members of the Dipterists Forum.

Limnella - wings are spotted with separation from similar species e.g. *Ilythea*, being shown by Drake (2006 updated 2013). Two of the three British species have been noted in VC55.

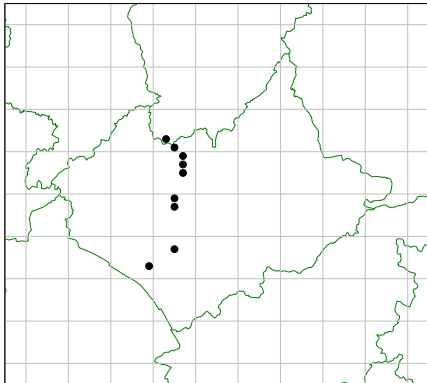
Separation of British *Limnella* species

Species	Halteres	Palps	Tarsi
<i>L. fallax</i>	Yellow	Yellow	Yellow
<i>L. quadrata</i>	Black	Yellow	Yellowish
<i>L. suturi</i>	Black	Black	Black

**Limnellia fallax** Czerny (4 records)

Scattered records in Britain being found near damp areas.

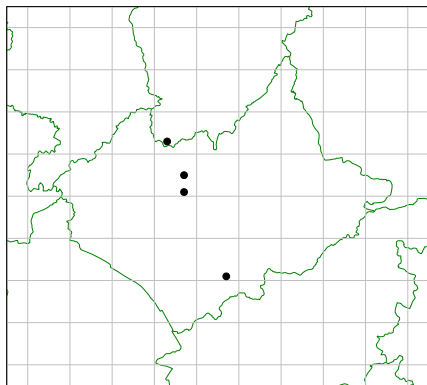
In VC55 the species has been noted by Andy Godfrey during surveying of the Buddon Wood area in 2013 while more recently (2018) several females were located by Graham Calow at Sapcote with identification by Tony Irwin of Norwich Museum.

**Limnellia quadrata** Fallén (17 records)

Records come from across Britain.

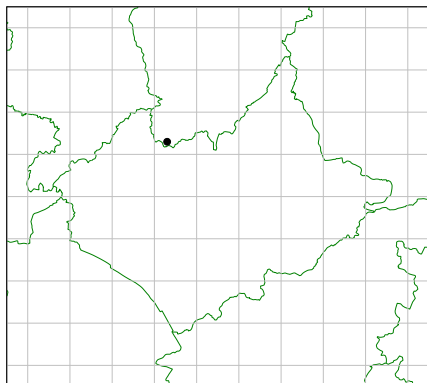
Many of the earlier records came from Derek Lott in the lower R. Soar environs (1994-2005) using pitfall traps. Swept at Narborough Bog NR (2005, Lott). Noted in the 2011-2012 Mountsorrel Quarry area surveys by Andy Godfrey, by Graham Calow at Sapcote (2013) and by Mike Higgott at County Hall (Glenfield, 2016) and Anstey (2020, 2023, see cover).

Notiphila - moderately large brown to black flies with three or four long dorsal setae on the mid tibia with other members of the family only showing hairs in this position. Six of the 16 British species have been recorded in Leicestershire & Rutland. Drake (2001) originally described the genus with an updated key in Drake (2006 updated 2013).

**Notiphila cinerea** Fallén (4 records)

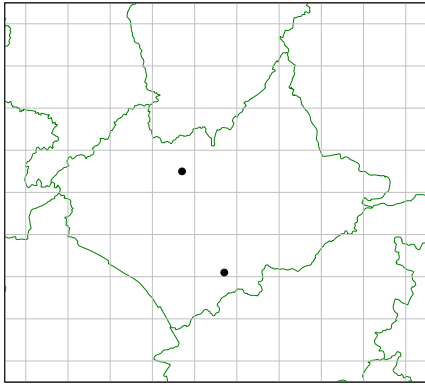
Numerous records from across Britain.

Derek Lott first noted the fly near the R. Soar at Barrow upon Soar in 1994 (pitfall) and again near the river at Loughborough and Saddington Reservoir in 2006 (swept). Andy Jukes saw the fly in north Leicester in 2018.

**Notiphila dorsata** Stenhammar (1 record)

Scattered records from mainly England & Wales.

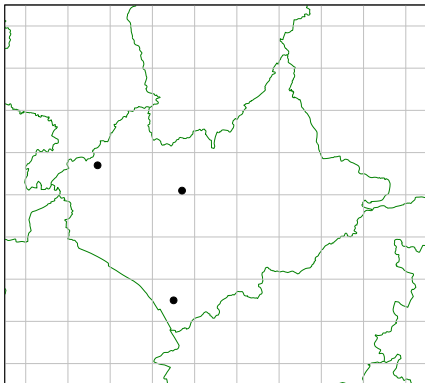
The sole local record came in 2006 from near the R. Soar at Loughborough when swept by Lott.



Notiphila graecula Becker (2 records)

All records currently on the NBN Atlas come from England.

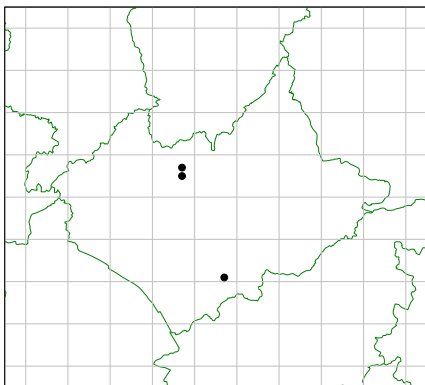
Found at Saddington Reservoir in 2006 by Derek Lott. Found near a pond at Mountsorrel Quarry in 2013 by Andy Godfrey.



Notiphila nigricornis Stebhammar (3 records)

Most records (NBN Atlas) are located in England & Wales.

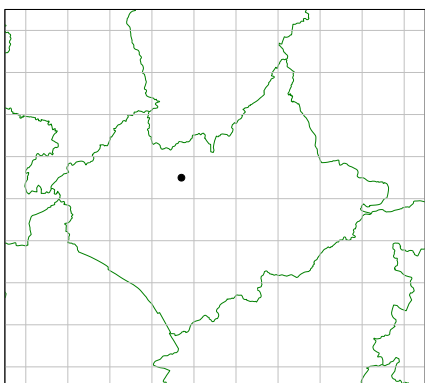
The three local records have appeared in the last few years. First noted by David Gibbs alongside a tributary near a Lutterworth spinney. Further records came from Andy Jukes during surveys at north Leicester (2018) and again at a mitigation site near Ashby de la Zouch (2020).



Notiphila riparia Meigen (3 records)

Frequent across England & Wales, less so elsewhere.

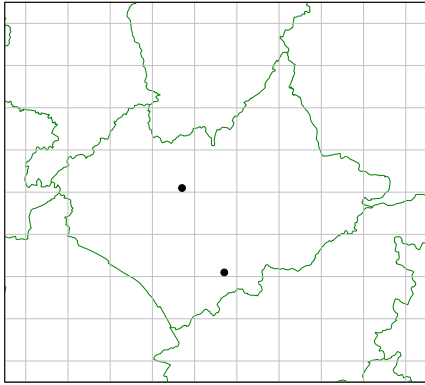
All local records originated from Derek Lott: R. Soar at Barrow upon Soar (1994, 2006) and Saddington Reservoir (2006) by pitfall trapping or sweeping.



Notiphila uliginosa Haliday (1 record)

Scattered across Britain but mainly England & Wales.

The sole VC55 record came in 1994 when taken in a pitfall trap by Derek Lott adjacent to the R. Soar near Barrow upon Soar.

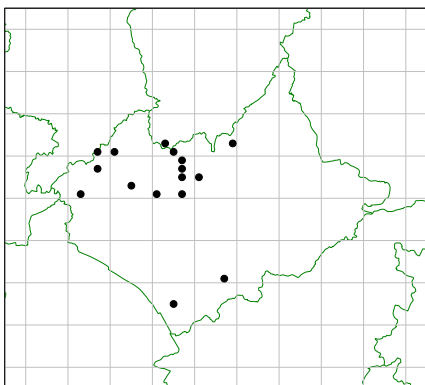


Paracoenia fumosa Stenhammar (2 records)

The sole member of this genus in Britain having been recorded mainly in England & Wales. (See *Coenia* entry for identification guide).

Swept by Derek Lott at Saddington Reservoir (2016) and then found in north Leicester by Andy Jukes in 2018.

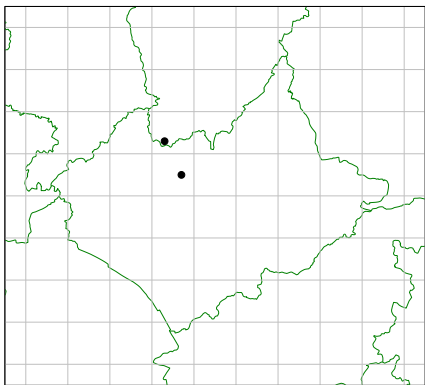
Parydra – large flies (although some can be small) and are often shiny with a sloping face. Drake (2006 updated 2013) keys out the ten British species of which five have been recorded locally.



Parydra coarctata Fallén (32 records)

The scutellum of this fly has a prominent apical tubercle. Found across England & Wales and into Scotland.

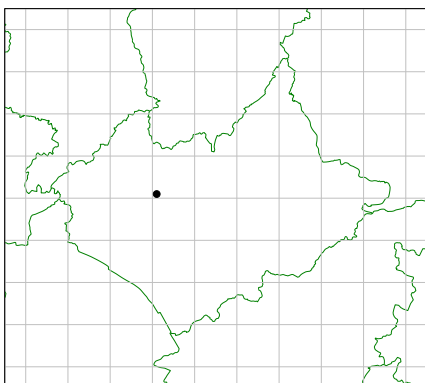
Many of the local records came from Derek Lott's pitfall trapping near the R. Soar in 1994 with more coming in 2005-6 during sweeping in similar habitats. Also noted by Andy Godfrey at a Measham brickworks (2006), Bardon Hill (2008) and the Mountsorrel Quarry complex (2013). The 2015 visit by DF members gave records from three sites (two being NRs) with further records coming from contract surveys elsewhere in subsequent years.



Parydra fossarum Haliday (3 records)

Records come from across Britain. The fly's tarsal segments darken towards their tips.

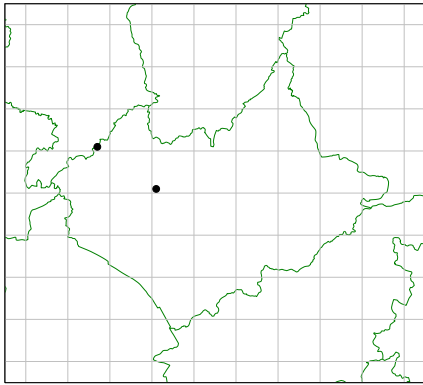
The VC55 records all result from work by Derek Lott: R. Soar (Barrow upon Soar) 1994 (pitfall) and Lea Meadows NR (R. Lin 2006) by sweeping.



Parydra hecate Haliday (2 records)

Tibia have indistinctly red bases and tips. Records predominately from England & Wales.

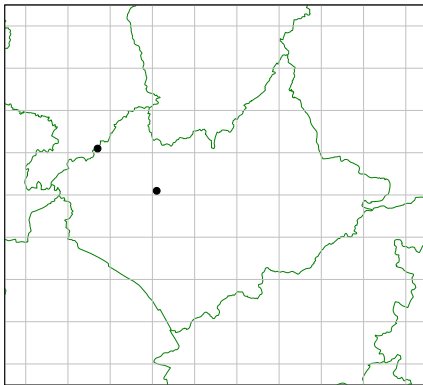
The only VC55 records came from the R. Lin area of Lea Meadows NR by Derek Lott in 2006.



Parydra littoralis Meigen (3 records)

Scattered throughout Britain. Mid tibia have silvery dusted patches at base.

Noted by Derek Lott at Lea Meadows NR in 2006 and then at Dimminsdale NR when spotted by DF members during their visit to the area in 2015.

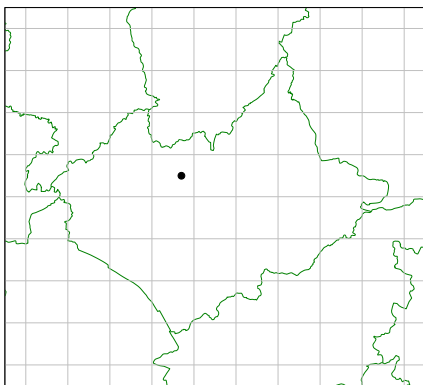


Parydra quadripunctata Mrigen (3 records)

Records mostly come from England & Wales. Tibia are almost totally dark. The wing pattern is similar to *P. nigratarsis*.

Local records are the same as for the previous species.

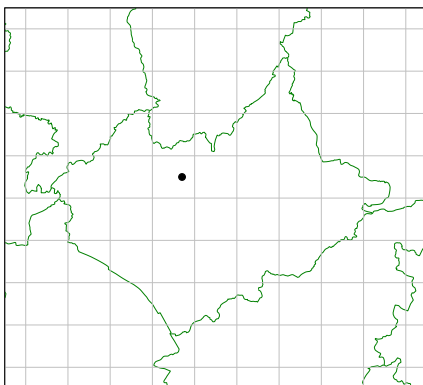
Philygria - have one pre-sutural and two post-sutural long dorsocentral setae (Drake 2006 updated 2013) as well as having a single row of acrostichals. Six of the ten British species have been seen in VC55.



Philygria femorata Stenhammar (1 record)

Needs careful separation from *P. interrupta*. Few national records scattered across England & Wales.

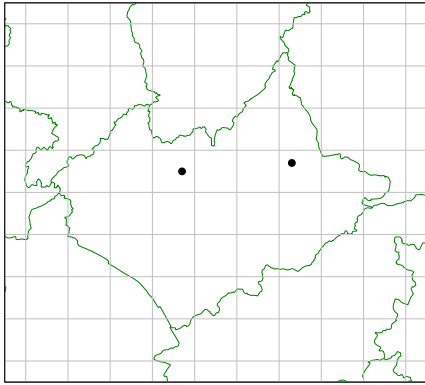
The only VC55 record came during survey work in 2012 at the Mountsorrel Quarry complex by Andy Godfrey.



Philygria flavipes Fallén (1 record)

Scattered across England & Wales. Wing crossveins darkened and legs are nearly all yellow.

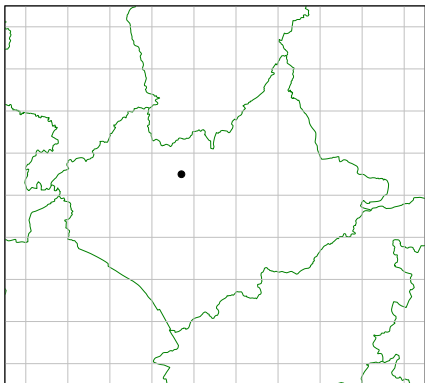
The only VC55 record came during survey work in 2011 at the Mountsorrel Quarry complex by Andy Godfrey.



Philygria interstincta Fallén (3 records)

Wings have dark spots that are not arranged along longitudinal veins.

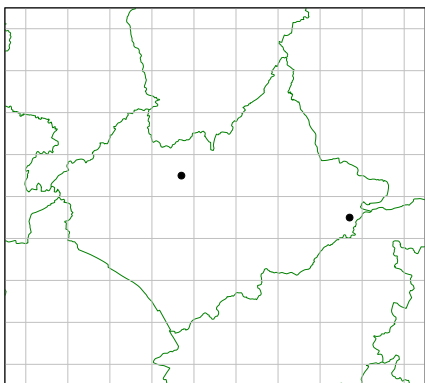
First noted at Wymondham Rough NR by Derek Lott in 2006 when recovered by suction sampling. Andy Godfrey found it during the Mountsorrel Quarry complex survey of 2012 and then again at Buddon Wood in 2013,



Philygria picta Fallén (1 record)

Not included in the keys of Drake (2006 updated 2013). Scattered in England & Wales.

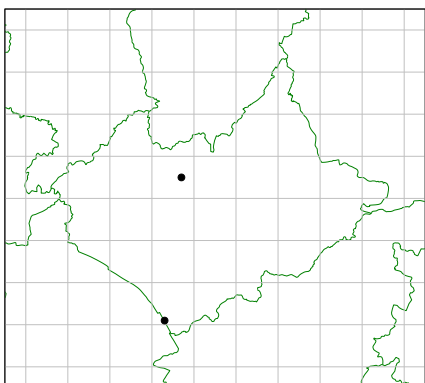
Found in the 2012 Mountsorrel Quarry complex survey by Andy Godfrey.



Philygria stictica Meigen (3 records)

Nearly all British records come from England. Wing has an indistinct spot.

Noted by Derek Lott (identification by Drake) at Ketton Quarry NR in 2006 when obtained by suction sampling. Found during the 2012 Mountsorrel Quarry complex survey by Andy Godfrey.



Philygria vittipennis Zetterstedt (2 records)

Scattered across England & Wales but scarce elsewhere. Needs careful genital examination to assure identification.

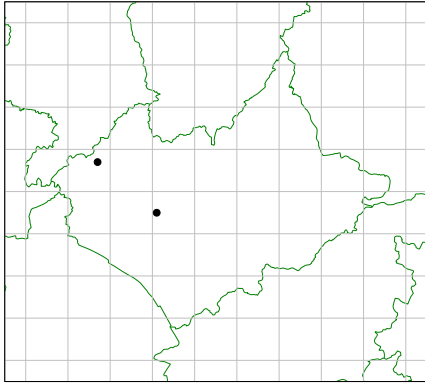
Andy Godfrey provided the two local records – Mountsorrel Quarry complex 2012 and Shawell Quarry 2016.

Psilopa - keyed out by Clemons & Drake (2011) and includes the three species currently regarded as occurring in Britain with just one recognised, to date, from our locale.

Psilopa nitidula Fallén (2 records)

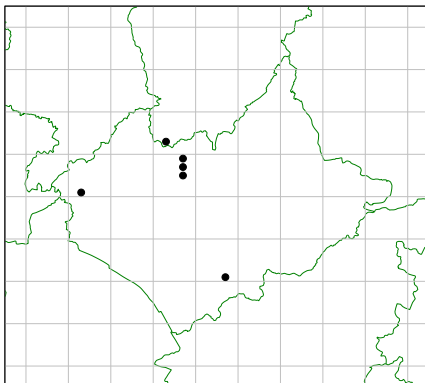
Front tarsi and tibia are entirely black. Most records come from England & Wales.

Found in 2018 at a disused aquatic nursery at Ashby de la Zouch (Andy Godfrey) with another from Ratby in 2023 by David Nicholls.



Ratby, 20/12/2023
David Nicholls, NatureSpot

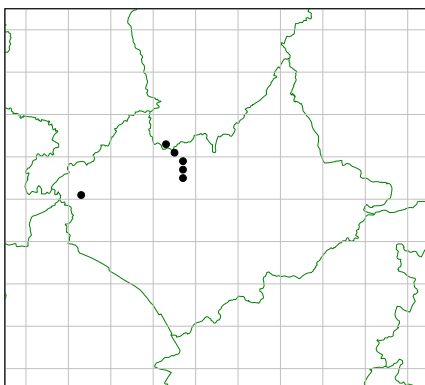
Scatella - comprehensively described by Drake (2006 updated 2013) with careful examination necessary to reach a satisfactory species identification. Just three of the nine British species have been reported locally.



Scatella lacustris (= tenuicosta) Meigen (21 records)

Listed in Drake (2006 updated 2013) keys as *S. tenuicosta*. Frequent across England & Wales and also occurring in Scotland. Has a dumb-bell shaped wing spot.

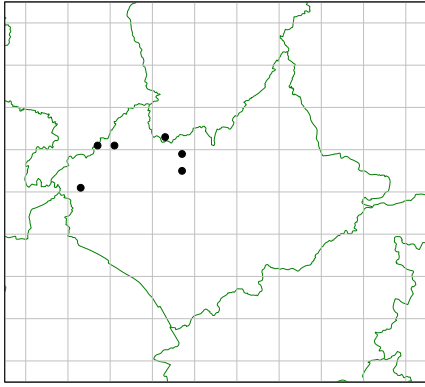
Found in Lott's pitfall traps along the R. Soar in 1994 and swept in 2006; also at Saddington Reservoir 2006. Andy Godfrey recorded the fly at a Measham brickworks (2006) at the Mountsorrel Quarry complex (2011, 2012, 2018)



Scatella paludum Meigen (15 records)

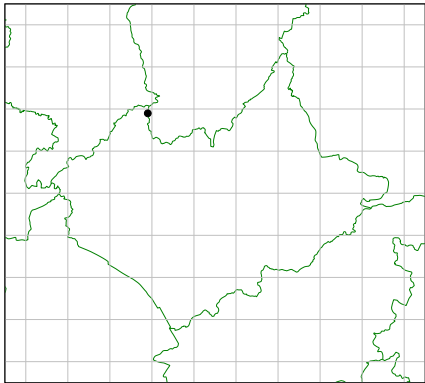
Has a silver face. Found across Britain.

With the exception of records from the Measham brickworks (2006) Mountsorrel Quarry complex (2012) by Andy Godfrey, all VC55 records came from the 1994 pitfall trapping by Derek Lott with identification by Martin Drake.

**Scatella stagnalis** Fallén (11 records)

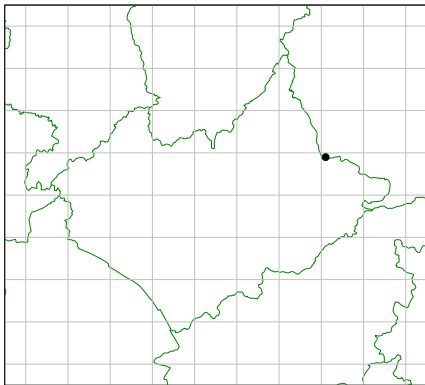
Frequent throughout Britain. Needs careful examination to identify species.

The R. Soar pitfall trapping in 1994 by Derek Lott provided many of the local records with others from a Measham brickworks (Andy Godfrey, 2006). The 2015 DF meeting to the area showed the fly to be present at Cloud Wood and Dimminsdale NRs.

**Setacera micans** Haliday (1 record)

Few scattered records in England & Wales. Pulvilli reduced or absent and a long hair on the outer side of the third antennal segment.

Only species of the three in this genus in Britain which has been seen on VC55. Only recorded once locally to date when swept by Keith Alexander at Lockington Marsh SSSI in 2010.

**Trimerina madizans** Fallén (1 record)

The only British member of this genus which is scattered in England & Wales. Eggs are laid on the egg masses of the *Hypselistes* genus of spiders where the larvae then destroy the host. The spider is found in wetlands mainly to the west of Britain (but also parts of East Anglia). Behavioural information can be found in Foote (1984) with a key to Finnish species including guidance to the present species in Krivosheina (2004).

The fly was noted at Cribbs Meadows NR in 2006 when collected by Derek Lott using suction sampling. A possible host (*H. jacksonii*) has only been recorded at Charnwood Lodge NNR during survey work by Richard Wilson in 2017.

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