LEICESTERSHIRE
ENTOMOLOGICAL SOCIETY

The status of Diptera in VC55

Tipulidae

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Dictenidia bimaculata (Dave Nicholls, NatureSpot)

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Introduction

It is a decade since a detailed overview of the Tipuloidea (colloquially called "craneflies") was produced for Leicestershire & Rutland (VC55) (Kramer, 2011). Since that time a substantial number of records have been added as interest in the invertebrate fauna of the two counties has blossomed. With the publication this year of *British Craneflies* (Stubbs, 2021) it is timely to review the status of the Tipulidae (Long-palped Craneflies), part of the Tipuloidea, as of the end of 2020 as part of the programme of establishing baselines for the study of the Diptera of VC55. The status of another member of this group, Cylindrotomidae, was reviewed in a recent LESOPS (Morris, 2021).

The introductory text in the earlier review is still relevant with considerable historical interest (and merits rereading!) not only to those studying the present group of flies but, also, to how the recognition of the dipteran fauna of the two counties was established.

Since the publication of *Craneflies of Leicestershire & Rutland* in 2011 by the Society, the rise of digital photography has made a major contribution to the recording of the larger cranefly species, especially the Tipulidae. NatureSpot was established in 2009 to record the wildlife of Leicestershire & Rutland and this has resulted in the addition of many thousands of records of insects to the County lists. Since that time this citizen science project, where photography has played an important part in recording flies, has allowed a much wider coverage of VC55 with many identifications being confirmed by national experts through the Dipterists Forum, iRecord etc. Graham Calow has done excellent work resulting in *Nigrotipula nigra* and *Tipula livida* being newly recorded for VC55 from his garden MV light trap. David Nicholls and Mike Higgott (NatureSpot cranefly recorders) have also recorded many cranefly species in the county. The study of Diptera using Malaise traps at several sites at Rutland Water has also yielded some excellent records (Morris, 2015a,b; Kramer, 2016a,b) and perhaps it will be possible to do more work with such traps in the future. It is hoped that another stimulus to further recording and study will be provided by Alan Stubbs' *British Craneflies* and the present review will complement the book.

Currently there are 87 (of eight genera) British species (Table 1) with 48 having been recorded in Leicestershire & Rutland as at the end of 2020. No records have yet been found of *Dolichopeza albipes,* the single member of the British Dolichopezinae, which seems to be absent from the Midlands and East England (NBN Atlas September 2021). The *Tipula* genus accounts for 33 of the species known from VC55 with several being particularly frequently encountered.

Records have been gleaned from a number of sources: Leicestershire & Rutland Environmental Records Centre, NatureSpot, NBN Atlas and entomological journals. Maps have been generated using MapMate® and species records organised alphabetically by genus.

Table 1: Genera of the Tipulidae

Genus	British Species	VC55 Species	Genus	British Species	VC55 Species
Ctenophora	3	1	*Nigrotipula*	1	1
Dictenidia	1	1	*Prionocera*	3	2
Dolichopeza	1	0	*Tanyptera*	2	1
Nephrotoma	15	9	*Tipula*	61	33

Categories and criteria used for status evaluation

Estimating the rarity of a species has been an ongoing exercise for many years (Table 2). For the present publication the National Rarity Indices has been used as based on the number of hectads (10x10km squares) that showed the presence of a species (data from the National Biodiversity Network).

Table 2: Rarity status schemes.

British Red Data Books (Shirt, 1987)
RDB 1 Endangered - known from only a single hectad
RDB 2 Vulnerable - species declining or in vulnerable habitats
RDB 3 Rare - known from only 15 hectads or fewer
The Invertebrate Site Register (Ball, 1994)
RDB 1 Endangered - known from only a single hectad
RDB 2 Vulnerable - species declining or in vulnerable habitats
RDB 3 Rare - known from only 15 hectads or fewer
RDB K - data-deficient
RDB I - rare, but data-deficient
Na (Notable A) - 16-30 hectads, ≤7 Vice Counties
Nb (Notable B) - 31-100 hectads, 8-20 Vice Counties
Joint Nature Conservation Committee
NR - Nationally Rare - ≤15 hectads
NS - Nationally Scarce - 16-100 hectads
LC - Least Concern - >100 hectads
National Rarity Indices (NRI, JK. 2012)
1 = >100 hectads [most common]
2 = 30-100 hectads
3 = 16-30 hectads
4 = 6-15 hectads
5 = 2-5 hectads
6 = 1 hectad [least common]

It is recognised that this Rarity Index is in need of revision as increased recording effort throughout the country since 2012 will have resulted in changes to the number of hectads occupied by a species. As a consequence, the reassessment carried out by Peter Boardman for this publication based on 2019 data, has resulted in a change in the NRI for several VC55 species (Appendix 5)..

Acknowledgements

JK would like to thank the Natural History Museum, London, for use of their imaging laboratory, and also staff Erica McAlister and Duncan Sivell for their support. Thanks also to Peter Boardman, the National Recorder for the Cranefly Recording Scheme, for providing the 2019 national hectad numbers.

References

Ball, S.G. (1994). The Invertebrate Site Register – objectives and achievements. *British Journal of Entomology & Natural History*, **7** (suppl 1), 2-11.

Brindle, A. (1960). The larvae and pupae of the British Tipulinae. (Diptera, Tipulidae). *Transactions of the Society for British Entomology,* **14**, 63-114.

Chiswell, J.R. (1956). A taxonomic account of the final instar larvae of some British Tipulinae. Diptera, Tipulidae). *Transaction of the Royal Entomological Society, London,* **108,** 409-484.

Crabbe, G. (1907). The natural history of the Vale of Belvoir In: Nichols, J. (ed.) (1795) *The History and Antiquities of the County of Leicester,* **1**(1), 191-203. [Reprinted 1971].

DF (2021). *An Update of the 1998 Checklist of Diptera of the British Isles* [updated 2 January 2021]. Dipterists Forum.
Kramer, J. (2011a). Leicestershire cranefly update. *Leicestershire Entomological Society Newsletter*, **45**, 6.
Kramer, J. (2011b). The craneflies of Leicestershire & Rutland (VC55). *Leicestershire Entomological Society Occasional Publications Series,* **26**.
Kramer, J. (2016a). Rutland Water craneflies. *Leicestershire Entomological Society Newsletter*, **54**, 8.
Kramer, J. (2016b). More on Rutland Water craneflies. *Leicestershire Entomological Society Newsletter*, **55**, 14-15.
Morris, R. (2015a). Provisional results from Malaise trapping at Rutland Water. *Leicestershire Entomological Society Newsletter*, **52**, 10.
Morris, R. (2015b). Malaise musings. *Leicestershire Entomological Society Newsletter*, **54**, 3.
Morris, R. (2021), The status of Diptera in VC55: families with up to 10 species. *Leicestershire Entomological Society Occasional Publications Series*, **40**.
Shirt, D.B. (ed) (1987). *British Red Data Books. 2: Insects*. Nature Conservancy Council, Peterborough.
Stubbs, A.E. (2021). *British Craneflies*. British Entomological & Natural History Society.

Annotated Tipulidae

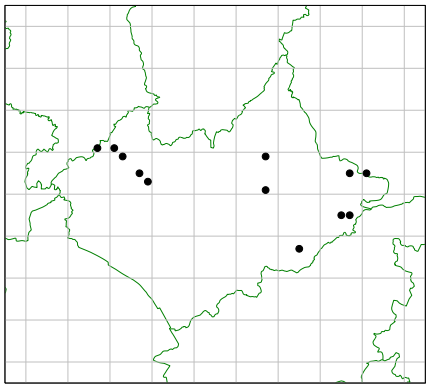
Notes on the national distribution of species is based on the NBN Atlas data as of October 2021 while comments on the species come from Stubbs (2021). This latter, with its colour pictures makes identification much easier and gives a feel for the 14 sub-genera of *Tipula*. The thumbnail diagrams in the keys are necessarily simplified and there are some images in this current publication that will help with understanding of the diagnostic characters.

Ctenophora pectinicornis L. (15 records)

The only one of the three British species of these curious craneflies (also known as Comb-horns which have long processes on their flagella segments and are wasp mimics) to be found in VC55. Larvae are saproxylic in softer decayed wood in rotting hollows in trees.

First noted at Staunton Harold in 1986 by John Mousley, the species has turned up occasionally at scattered locations but not from the southern part of VC55. It is worth noting that this species (named as *Tipula pecticornis)* was noted as being present in the Vale of Belvoir (although not common) by George Crabbe (Crabbe, 1795).

Charnwood Lodge, 2020 (Annie Smith, NatureSpot)

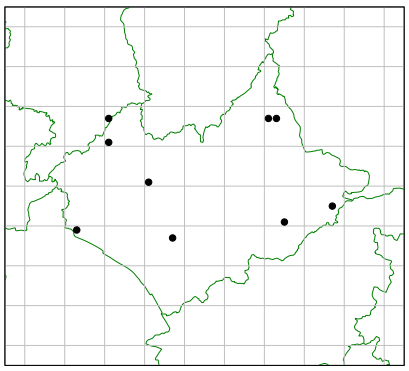


Dictenidia bimaculata L. (14 records)

The only member of this genus in Britain (there are only 15 worldwide). The adult should be readily identified but only a few well-scattered records have been found for VC55. The larvae are saproxylic in softer decayed wood e.g. birch.

Noted by WA Vice in the Blaby district in the 19th century (VCH-L, 1907), it was not until 1988 that it was noted again from Wardley Wood (John Kramer) and at Donington Park (Derek Lott). Occasionally seen since.

Ratcliffe Culey, 2019 (Dave Nicholls, NatureSpot)

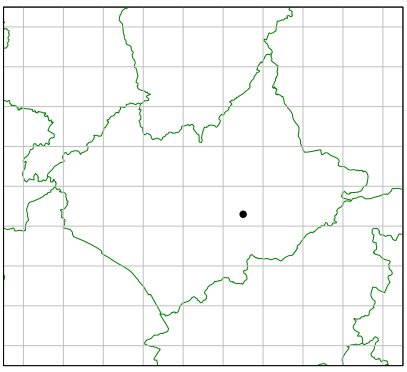


The Nephrotoma are commonly called "tiger craneflies" as they are yellow with dark stripes on the body. Many also have stripes on the upper thorax. Nine of the 15 British species have been recorded in VC55.

Nephrotoma analis Schummel (1 record)

A scattered species in Britain (although not the Midlands) the adults being found in the vicinity of water bodies. The wing has a black stigma. Seems to prefer areas undisturbed by human activity. The larvae are found in moist, well drained sandy soils.

Alan Stubbs found the sole VC55 example of this fly at Skeffington Wood in 1989.

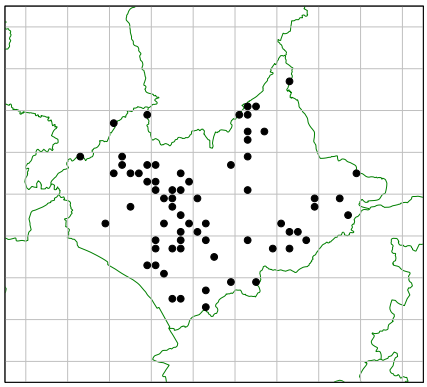


Nephrotoma appendiculata Pierre (114 records)

This is a common species of grassland, the larvae being found in damp soil, Adult thoracic banding can seem to be missing as the central black band extends widely obscuring any yellow (see figure).

First noted in VC55 when reported in the VCH-L (1907) from the Longcliffe area (near Loughborough) and the Blaby area by WA Vice. Specimens from Longcliffe were collected by PAH Muschamp in 1936 and are in the County Resources Collection at Barrow upon Soar. In the 1980s and 1990s more records were made across VC55 by Alan Stubbs and John Kramer respectively. Since 2010, the recording activity of NatureSpot supporters has increased our knowledge of the VC55 distribution of this species.

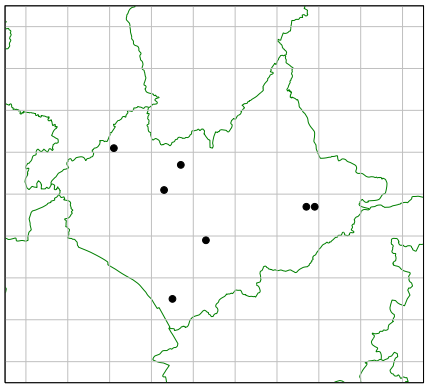
Broughton Astley, 2015 (Graham Calow, NatureSpot)



Nephrotoma cornicina L. (12 records)

Whilst mainly associated with south-east England, there are records from other scattered locations in Britain. Larvae occur in damp soil.

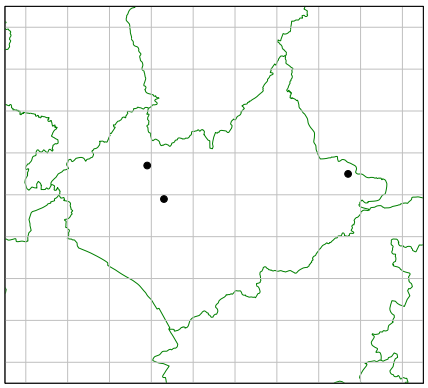
The fly is reputed to prefer drier warmer situations although many of the VC55 records come from damp places such as Rutland Water and Misterton Marshes. PAH Muschamp noted the species at Bradgate Park in 1935 with a specimen deposited in the County collections. Most of the records have come since 2011 but with no records in some years.



Nephrotoma crocata L. (4 records)

Stubbs (2021) considers this species to be scarcer than in the past with few records outside England. The abdominal stripes are black emphasising the "tiger" appearance. The larvae are usually found in the upper layers of sandy heathland soil, upper layer.

The VCH for Leicestershire (VCH-L, 1907) notes the species at Longcliffe again probably by WA Vice but not found again until 1989 when seen near Groby Pool and then on two occasions (two days apart) at Clipsham Quarry in Rutland in May 2019 by Matthew Berriman.

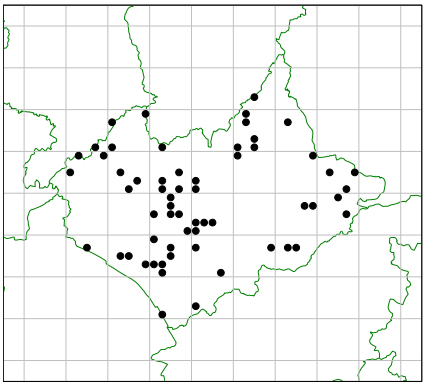


Nephrotoma flavescens L. (137 records)

A common summer cranefly where the larvae can be found in damp grassland soil (including gardens). It occurs throughout Britain a situation experienced in VC55.

There were only eight records prior to 2000 with those made since having been primarily as a result of NatureSpot recorder efforts.

Sapcote, 2009 (Graham Calow, NatureSpot)

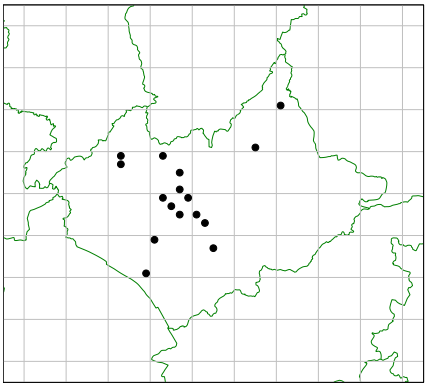


Nephrotoma flavipalpis Meigen (18 records)

Found throughout much of Britain although not north of the central belt in Scotland. The larvae occur in damp to fairly dry grassland soil at woodland edges.

The distribution in VC55 probably shows under-recording as there are few records from west Leicestershire and Rutland.

Fosse Meadows CP, 2011 (David Nichols, NatureSpot)

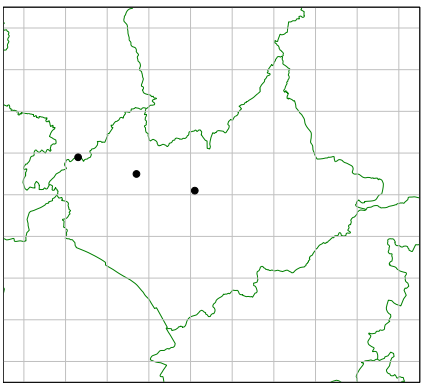


Nephrotoma guestfalica Westhoff (3 records)

A widespread species in Britain with the larvae inhabiting rich damp woodland or garden soil.

The first VC55 record came from Scam Hazel Wood near Ashby de la Zouch in 1998 and then at Charley Woods in the Charnwood in 2000. The most recent record came from the Syston area near to Watermead CP in 2011.

Male genitalia

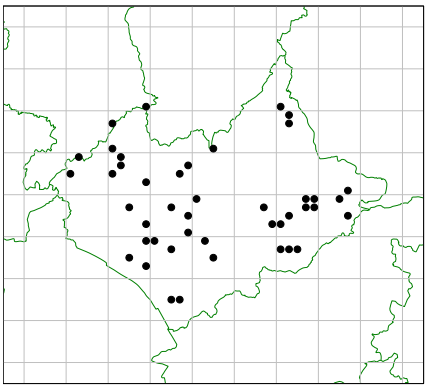


Nephrotoma quadrifaria Meigen (80 records)

A common species throughout much of Britain especially with the larvae being found in damp or moderately dry grassland or woodland soil. The usually strongly marked wings are an aid to identification.

Until Alan Stubbs started recording in our counties in 1972 there had been no records of this species. In the 1990s John Kramer added a substantial number of records with many more as a result of increased interest in craneflies since 2000. Interestingly, the species may seem to skip a year with no records being made e.g. 2017.

Sapcote, 2010 (Graham Calow, NatureSpot)

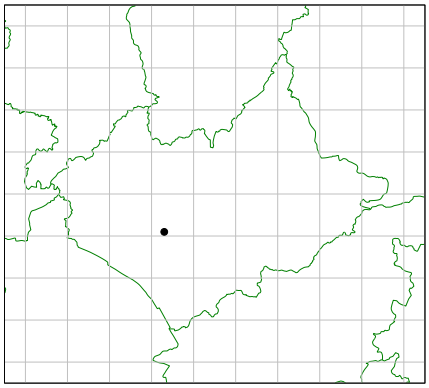


Nephrotoma submaculosa Edwards (1 record)

A species usually encountered in coastal sand dunes and river sand bars where the larvae can be found. Use of the Stubbs' keys (Stubbs, 2021) will ensure correct identification.

The single VC55 record came from the Enderby area in 1987 being found during a national Invertebrate Site Register visit by Natural England. Single records have also been noted in some neighbouring counties – possible wanderers?

Male genitalia



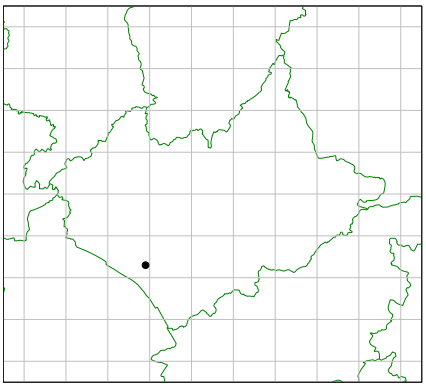
Nigrotipula nigra L. (1 record)

An easily recognised species being essentially shades of dark brown to black – even the wings. This is a widespread species favouring the south and east of England to Northumberland and the south Wales coastal area. The larvae favour damp peaty soil.

Locally the only verified record came from Sapcote in 2013 when taken by Graham Calow and identified by John Kramer. It had been previously noted (Kramer 2011) that PAH Muschamp had written in his notebook about the presence of this cranefly at Narborough Bog but without any details of when and who – accordingly the record must be considered unproven and is excluded from this review.

[Since that time, although outside the scope of this LESOPS, Mark Skevington found one at Everards Meadow near Enderby in July 2021].

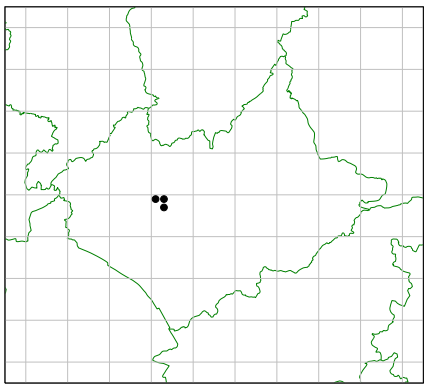
Sapcote, 2013 (Graham Calow, NatureSpot)



Prionocera subserricornis Zetterstedt (5 records)

The larvae occur In semi-aquatic bog moss. According to Stubbs (2021) this species was first recorded in the Norfolk Broads (Catfield) in 1920. It was then discovered in the Brecks area of Norfolk in 1980 since when it has become known over a wider area, westwards towards Cheshire but not southerly or northerly.

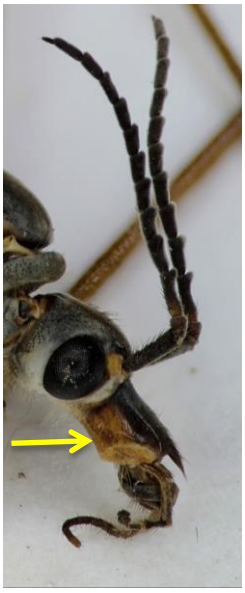
The cranefly was found at Groby Pool in Leicestershire in 1989 and then again in 2006 by national experts. It seems the preferred larval habitat is peaty, moist areas overhung by Alder – an Alder carr exists at Groby Pool.

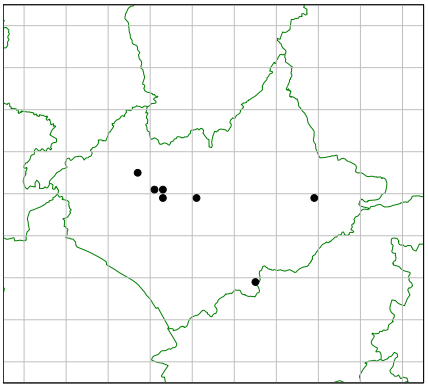


Prionocera turcica Fabricius (9 records)

Widespread throughout Britain with the larvae being found in semi-aquatic bog moss. This species has an almost totally yellow rostrum which distinguishes it from the others in the genus.

The fly seems to prefer wetter habitats such as fens which and the majority of VC55 records come from such situations but not since 1999 when it was found at five locations. Possibly under-recorded but the distinctive antennae is diagnostic for this genus.



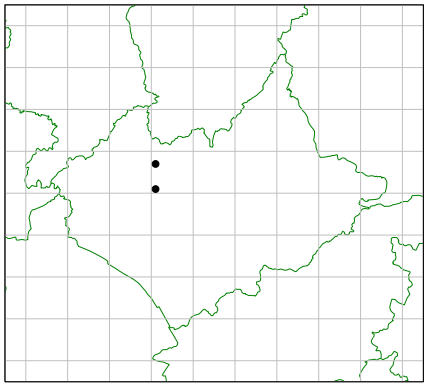


Tanyptera nigricornis Meigen (2 records)

The larvae of this species occur in birch woodland with rotting trees. The adults have entire black sides to the thorax separating them from *Ctenophora* while the females have an abdominal red "girdle".

This species, the only member of this genus to have been reported in VC55 (although it is widespread in Britain) was first noted locally when Alan Stubbs identified it from a 1982 malaise trap sample run as part of the Loughborough University Wood Brook survey overseen by Malcolm Greenwood in the 1980s. The only other record came in 2015 when a female was spotted at Sandhills Lodge, Ulverscroft by LRWT field officer Uta Hamzaoui.

Sandhills Lodge, 2015 (Uta Hazaoui)



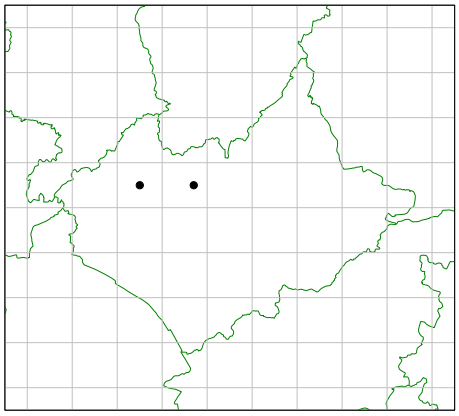
The Tipula genus is perhaps the more challenging of the Tipulidae to identify although to a certain extent examination of the wings can be helpful but certain identification fro some species, often requires genitalia examination (see Appendix 4). The new British Craneflies book, with its colour pictures makes identification much easier and gives a feel for the ten sub-genera of *Tipula. The thumbnail diagrams in the keys are necessarily simplified and there are some photos in this publication that will help with the understanding of the diagnostic characters.*

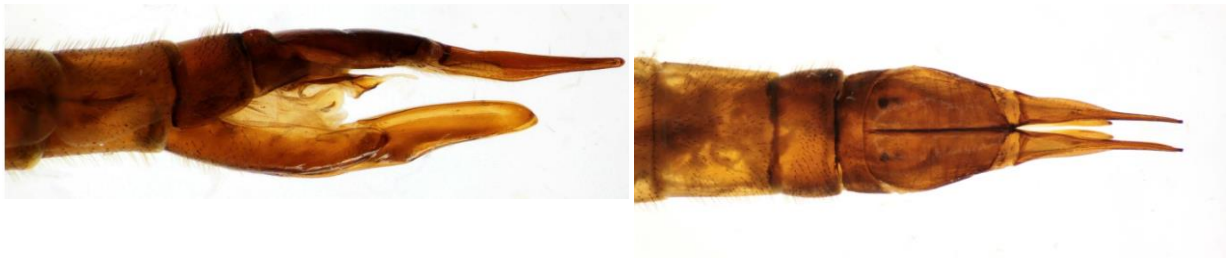
Tipula cava Riedel (4 records)

Widespread in England & Wales, less so in Scotland. The larvae inhabit well-drained humus in acid soils. The posterior segment of the male adult is characterised by a white blister on each side.

Usually associated with acid heathland soils but not in alkaline areas. This is reflected in the only VC55 records coming from the Charnwood area – Charnwood Lodge NNR 1999 and the Mountsorrel-Buddon area in 2011-12.

Male genitalia





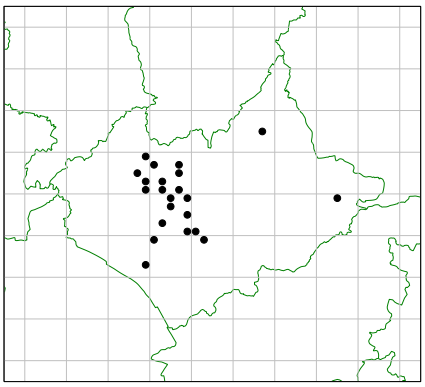
Female terminalia (left - lateral; right - dorsal)

Tipula confusa van der Wulp (64 records)

One of the commoner summer and autumn *Tipula* with the larvae being found in damp mosses on walls and stones. The sides of the adult thorax are somewhat mottled.

Widespread throughout mainland Britain in a variety of habitats although current records show the fly to be clustered in central VC55 possibly due to recorder bias. First noted in 1981 at Barrow upon Soar with the majority of records coming from 2009; a regular visitor to several sites e.g. an Anstey garden and the centre of Empingham.

Thurlaston, 2020 (Ted Gaten, NatureSpot)

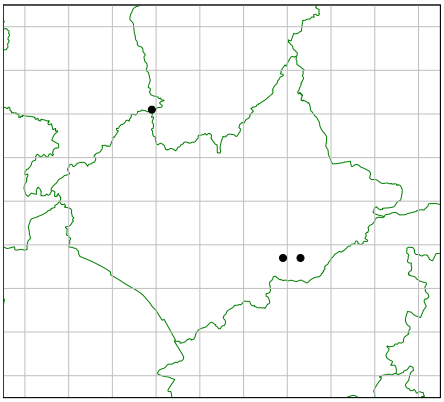


Tipula couckei Tonnoir (7 records)

The species occurs scattered over mainland Britain apparently preferring to be in the vicinity of water (the larvae are aquatic) where there may be bare gravel.

Accordingly, this type of habitat preference seems to be the case locally with all the records being made by either Alan Stubbs or John Kramer with the Lockington Marshes area being particularly favoured. Stockerston in Rutland is also a known site with the records coming from the vicinity of the Eye Brook/R Eye.

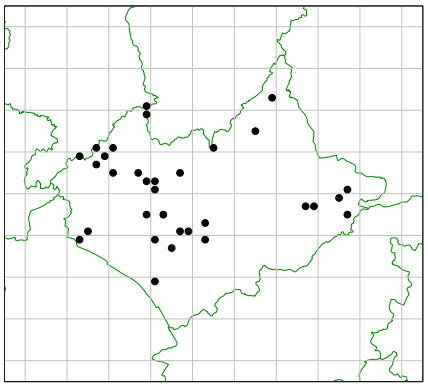
Male genitalia



Tipula fascipennis Meigen (46 records)

Common throughout England & Wales, less in Scotland. Usually associated with hedgerows and woodland edges where the larvae can be found in moist soil. Often the pale wing streak is obvious aiding identification although not a constant character.

Most records tend to come from west VC55 perhaps reflecting recorder. First seen at Narborough Bog (David Lewis, 1975) with recording taking off in the 1990s.



Ulverscroft 2016 (Kate Nightingale, Naturespot)

Male genitalia

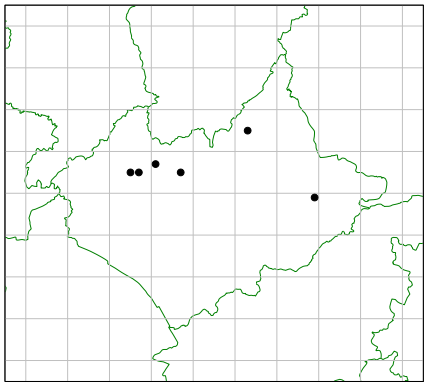
Female terminalia (left - lateral; right - dorsal)

Tipula flavolineata Meigen (6 records)

Occasional and widespread in England & Wales although less so in Scotland. The larvae frequent decaying, although often fairly hard, wood. The adult has a noticeable yellow line along the front of the wing with the costal cell also yellow.

Taken in a malaise trap at Wood Brook, Nanpantan by Malcolm Greenwood (identified by Alan Stubbs) in 1981 and on scattered occasions elsewhere since, the last record being in 2013 from Buddon Wood during survey work by Andy Godfrey.

Male genitalia

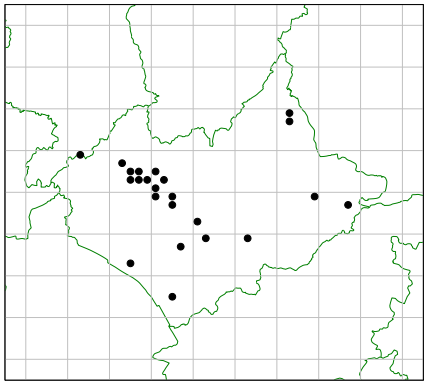


Tipula fulvipennis De Geer (35 records)

The larvae of this cranefly are found in the humus of moist to saturated soils. One of the largest of the craneflies that can easily be recognised by the dark spot between two veins in the middle of the wing. A species common throughout the country.

Alan Stubbs found it at Burley Wood in 1989 and then the fly was found throughout VC55 from 1994 onwards.

Ulverscroft 2011 (Graham Calow, NatureSpot)

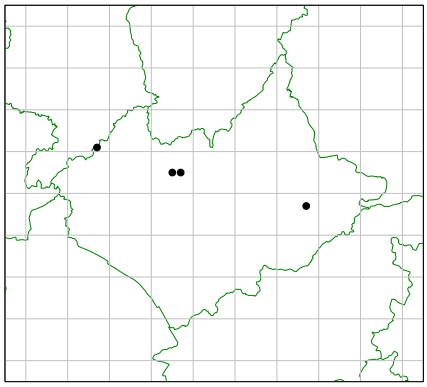


Tipula helvola Loew (8 records)

This species had been regarded as being rare the current distribution map (NBN Atlas 2021) showing it to be limited to the south of the Humber in England and also in North Wales. A small weak yellow-brown species often associated with areas of dry soils where the larvae are found in the humus.

In VC55 most records come from the Buddon Wood complex although it has been caught in a malaise trap at Heron Bay, Rutland Water in 2015.

Male genitalia

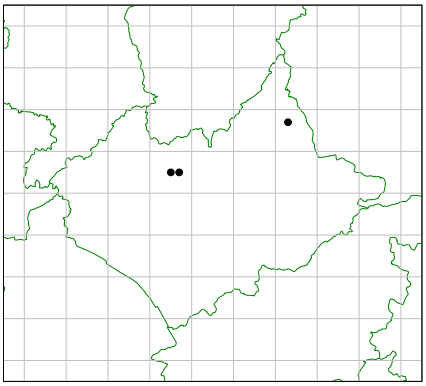


Tipula irrorata (3 records)

The larvae can be found under the bark of dead logs and branches. A woodland species occurring throughout Britain, even into the Highlands of north Scotland. The adults show strong dark-grey mottling of the wings with occasional white areas. Often they seem to be difficult to spot in their habitat because of their camouflaging on tree trunks.

In VC55 the species has been only found at Croxton Park (2004) and Buddon Wood (2011).

Male genitalia

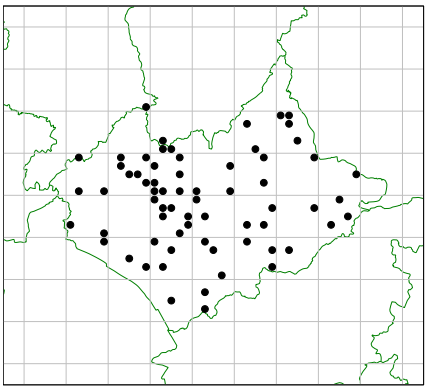


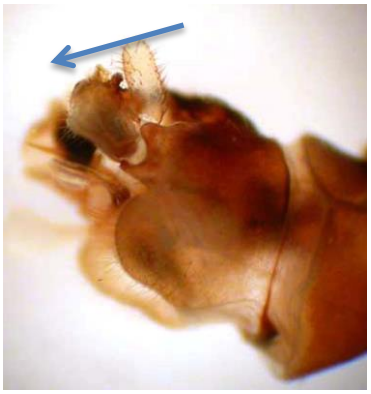
Tipula lateralis Meigen (124 records)

A common species through Britain in a wide range of habitats although avoiding shade. The aquatic larvae favour moving water.

Recorded throughout VC55 since 1972 in a wide range of habitats.

Spearwort Fields, Aylestone, 2016 (David Gould)



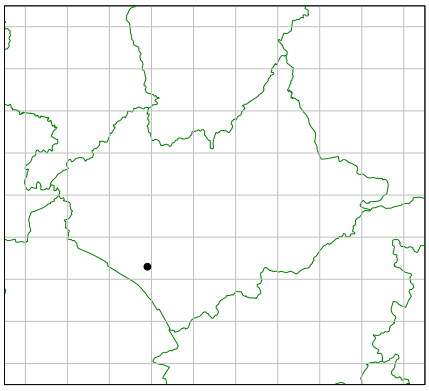


Male genitalia

Tipula livida van der Wulp (1 record)

Apparently a widespread species although infrequent. Larvae are found in the humus of sandy woodland soil.

The single VC55 record was a female taken by Graham Calow at Sapcote in 2019 with identification by genitalia examination (image) by John Kramer.

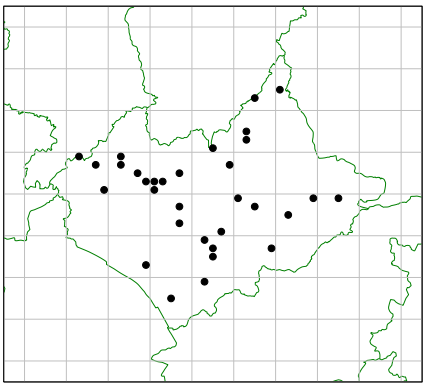


Sapcote, 2019 (Graham Calow, NatureSpot; female genitalia by John Kramer)

Tipula luna Westhoff (53 records)

A widespread species in Britain typical of wet meadows and similar habitats with the larvae being found in the humus of marshy soils.

Widespread through our two counties: first recorded from Heather in 1974 and then regularly since 1998. Distinctive black stripe on each side of the abdomen.



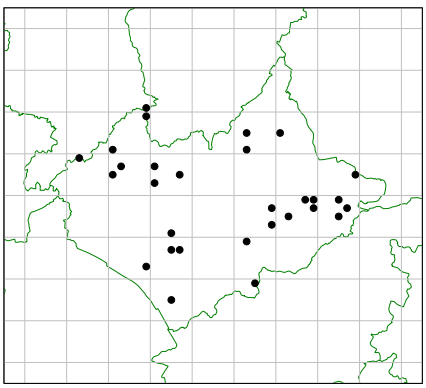
Old Fosse, Sapcote, 2009 (Graham Calow, NatureSpot)

Female terminalia (left - lateral; right - dorsal)

Tipula lunata L. (43 records)

One of the three large orange-coloured craneflies with the thorax, in particular, showing this coloration. The larvae are found in humus in damp rich woodland soil.

Noted as occurring in the Blaby area presumably by WA Vice (VCH-L, 1907) and then in Braunston (Leicester) in 1933 by Muschamp with a specimen deposited in the county collections. It was not until the 1990s that records of this species were regularly being made from across VC55.



Sapcote, 2014 (Graham Calow, NatureSpot)

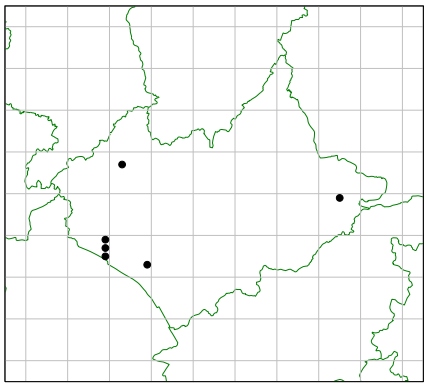
Female terminalia (left - lateral; right - dorsal)

Tipula luteipennis Meigen (8 records)

Larvae of this cranefly are found in saturated marshy soil, swampy fen carr and mires. The wings of the adults are yellowish in colour as are the veins. This autumn-emerging cranefly is widespread in Britain, particularly in Wales.

Nearly all the VC55 records come from the favoured recording locations.

Sapcote, 2013 (Graham Calow, NatureSpot)

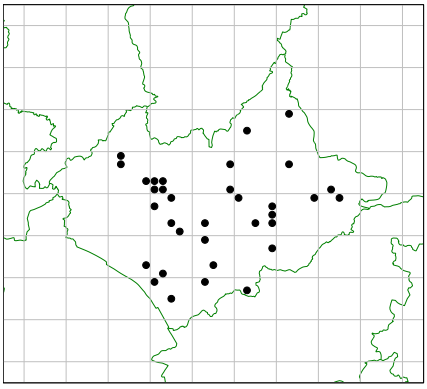


Tipula maxima Poda (54 records)

The largest and well-marked member of the Tipulidae; the larvae frequent running water or humus in marshy soils. The species can be locally common and is widespread throughout Britain and is widely recorded in VC55.

While usually associated with damp habitats, locally it seems to be less choosy. Recorded as occurring at Anstey Lane and Bradgate (VCH-0L 1907) and is also mentioned as being present in Rutland but no details were given (VCH-R, 1908). A specimen taken by Steve Falk in 1997 at Ulvescroft is in the county collections.

Sapcote, 2009 (Graham Calow, Naturepot)

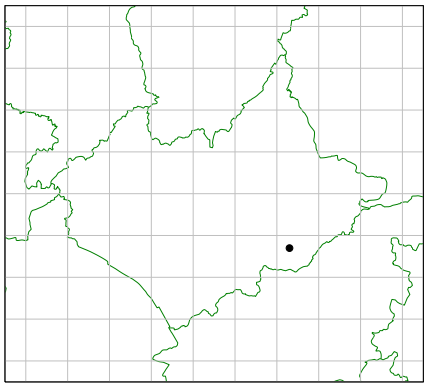


Tipula montium Egger (1 record)

Mainly a western and northern species of higher ground with few records in the lowlands of the Midlands and southern England.

The larvae are aquatic in rivers which may indicate the origin of the adult at Stockerston (Rutland) near the River Eye in 1989 when found by Alan Stubbs.

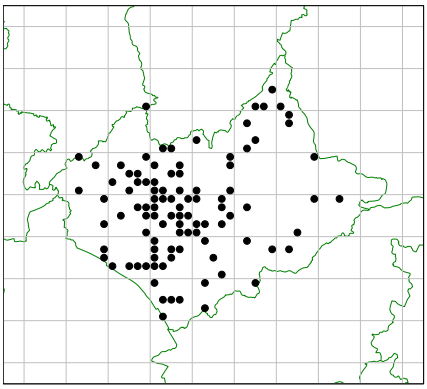
Male genitalia



Tipula oleracea L. (193 records)

A common cranefly found throughout much of Britain and VC55 thriving particularly in wet pastures where the larvae can be found in the soil feeding on root and shoots. The adult is readily identifiable because of the close proximity of the eyes to each other.

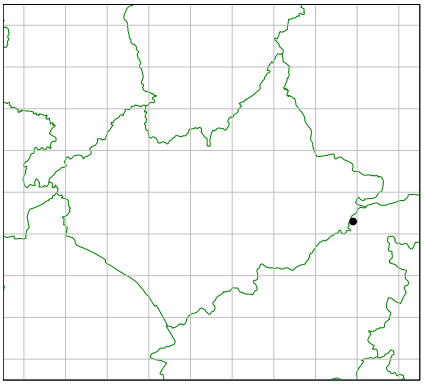
Groby Pool, 2008 (Dave Nicholls, NatureSpot)



Tipula pabulina Meigen (1 record)

National records are widely scattered seemingly preferring more alkaline habitats. The adult has a thin dark median line on the thorax and the male has a very distinctive tergite 9 with four projections.

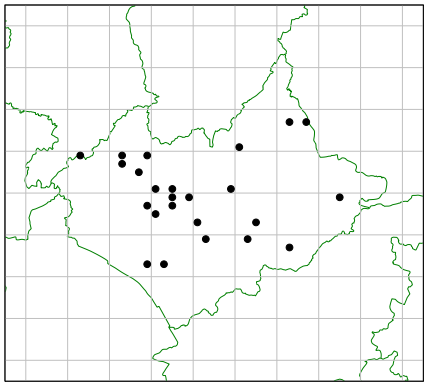
The sole VC55 record came from Jonathan Cole in May 2005 taken at a wood near Collyweston but with no accurate location details. This area is in the border area between Rutland and Lincolnshire and the record has been included in this LESOPS as possibly being in VC55.



Tipula pagana Meigen (52 records)

Larvae inhabit mosses on lawns, drives, stones, walls etc. The adult females tend to have reduced wings whilst the males are fully-winged. Probably common throughout Britain flying in late autumn.

In VC55 it seems to be commonly encountered in gardens.



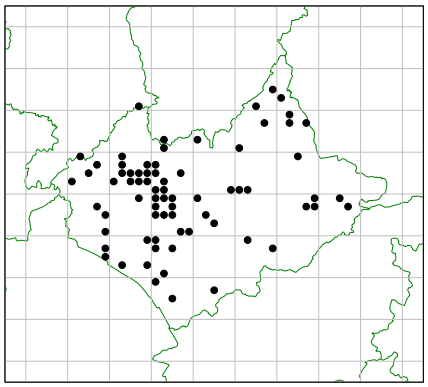
Male (left) and female (right) Ratby, 2011 (Dave Nicholls, NatureSpot

Tipula paludosa Meigen (157 records)

An extremely common and widespread species in Britain. The larvae living in grassland soils, feeding on roots and shoots, and can be a pest of cereal crops and grassy areas. The wings are fairly short not reaching the tip of the ovipositor.

PAH Muschamp found it at Longcliffe in 1936 and deposited a specimen in the county collections. Fairly frequent in VC55 over the years.

Jubilee Walk, Leire, 2012 (Graham Calow, NatureSpot)

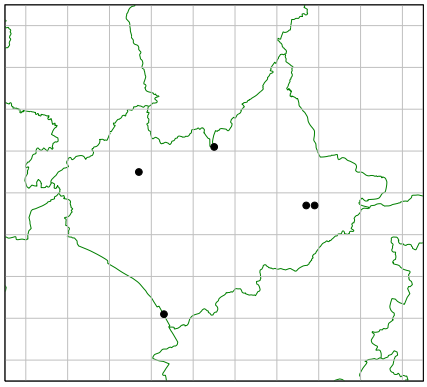


Tipula peliostigma Schummel (7 records)

Stubbs (2021) considers that many records of this species should be considered suspect with the females being a challenge to identify although the males are a little easier. The situation is somewhat complicated in that larval habitats are unknown at this time. East Anglia seems to be its main stronghold but records seem to be widespread.

All VC55 records have originated from expert entomologists. Edward Rivenhall Goffe (his Diptera collection is located at the Oxford Natural History Museum) first recorded the species in VC55 from Six Hills in 1934. John Kramer found it at Charnwood Lodge NNR (1999) and Andy Godfrey saw it at Shawell Quarry (2014). The malaise trapping exercise carried out at sites at Rutland Water 2014-2016 showed the fly to be present at Egleton (2014, 2015) and Heron Bay (2015) with identifications by John Kramer.

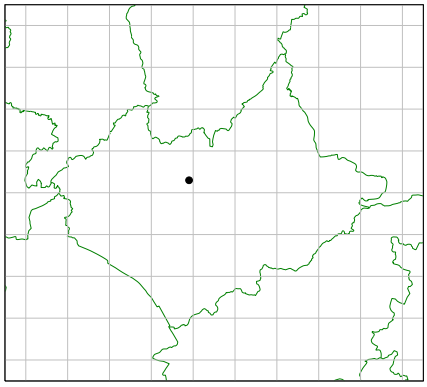
Male genitalia



Tipula pierrei Tonnoir (1 record)

The aquatic larvae are found on grazing levels as well as pond and lake margins. The males of this species are unusual in that identification can be confirmed by the dull yellow genitalia and the almost total absence of a pale lunule on the brown wings. A widely scattered species seemingly favouring lowland grasslands.

The sole VC55 record came from Cossington Meadows NR by Martin Harvey in 2008.

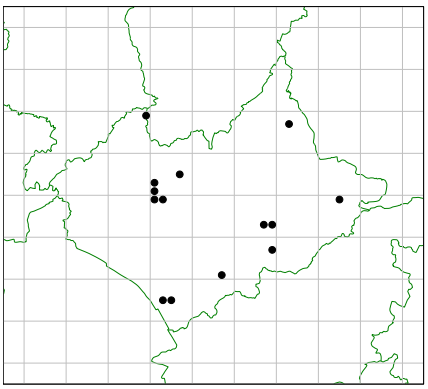


Tipula pruinosa Wiedemann (17 records)

A species scattered throughout much of England & Wales although less so in the south midlands, East Anglia and Scotland. The larvae are semi-aquatic being found in base-rich soils in meadows and woodland rides. The adults need careful examination to assure identity.

All VC55 records come from reputable entomologists from 1989 to 2018.

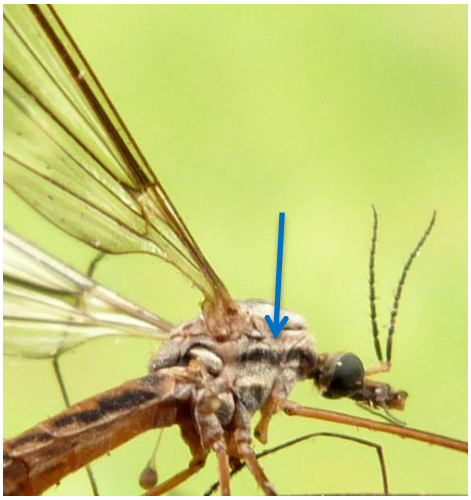
Male genitalia



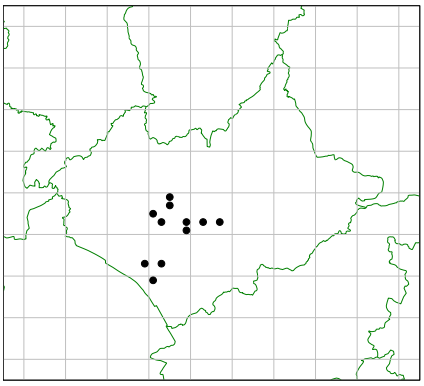
Tipula rufina Meigen (29 records)

Damp mosses on lawns, drives, stones, walls are the usual habitat for the larvae of this species. In the adult there is an exceptionally strong dark brown stripe running from the neck to the wing which is diagnostic. The fly occurs throughout much of Britain although the East Midlands seems to be a bit bare.

It may demonstrate two generations each year although it is not clear if this occurs in VC55 due to the paucity of autumn records. In VC55 it seems to be mostly recorded from gardens.



Sapcote, 2014 (Graham Calow, NatureSpot)

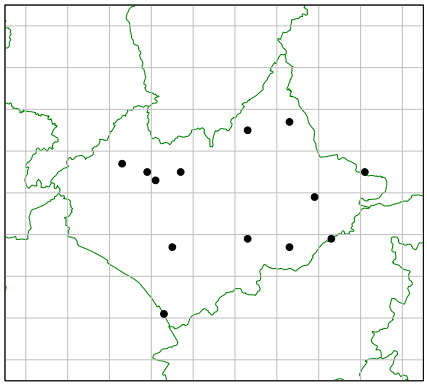


Tipula scripta Meigen (15 records)

The larvae are usually found in in moist woodland soils and leaf-litter. The antennae of the adult have yellow flagellar segments with dark rings with the fly being widely distributed throughout Britain.

All VC55 records have been identified by experts and are from a range of locations and habitats

Male genitalia

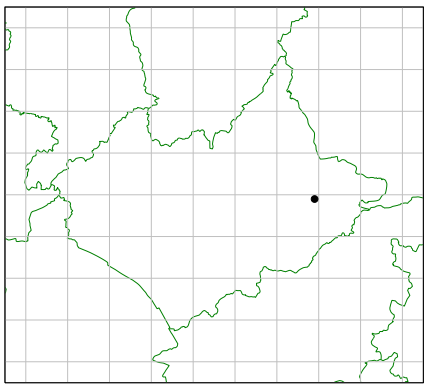


Tipula selene Meigen (1 record)

A relatively uncommon cranefly apparently limited to the southern part of Britain. The larvae frequent woodland mosses on trees, stones and walls with and was found in debris inside the hollow trunk of a willow beside a river (Chiswell, 1956). It would seem that genitalia examination of the adults is necessary to confirm identity.

The sole VC55 record came from Burley Wood (Rutland) where John Kramer found it in 1999.

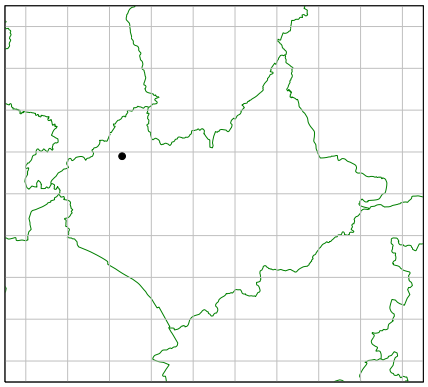
Male genitalia



Tipula signata Staeger (2 records)

A widespread species with an apparent lack of records from the East Midlands, south-west England and much of Scotland. The larvae frequent woodland mosses on trees, stones and walls. Another fly requiring careful examination.

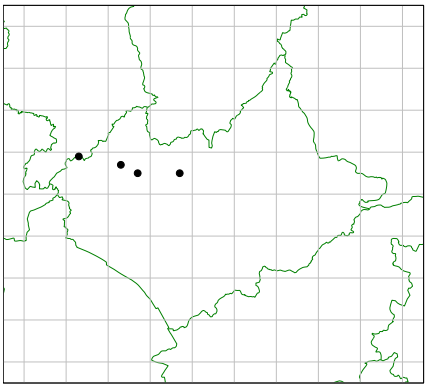
Both VC55 records came from John Kramer when visiting Grace Dieu Woods, in the Charnwood area, during October 2010.



Tipula staegeri Nielsen (4 records)

A species widely distributed in Britain particularly Wales. Larvae are found in woodland mosses on trees, stones and walls. Stubbs (2021) considers this fly one of the easier to identify with a mottled wing and a brown stigma.

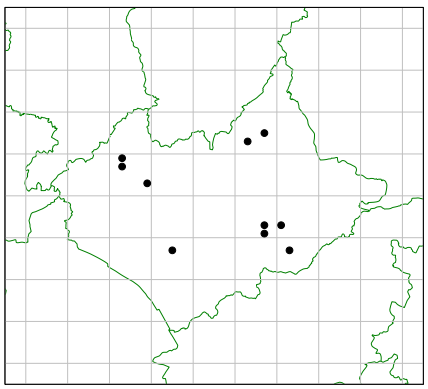
An autumnal species recorded from the north-west of Leicestershire.



Tipula submarmorata Schummel (13 records)

Widespread throughout Britain in woodlands during spring with the larvae in the humus of rich woodland soils. Often in males vein R_2 does not reach the wing edge although in females this is less clear.

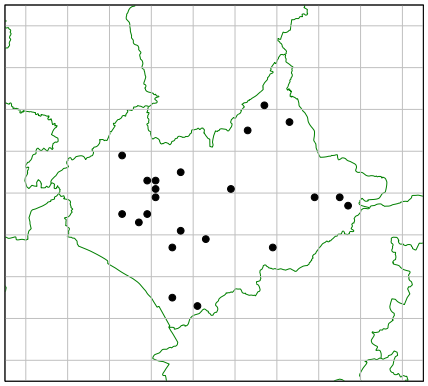
VC55 records came from a variety of wooded locations.



Tipula unca Wiedemann (28 records)

Tends to be found in marshy places and damp woods throughout Britain the larvae living in the damp humus, sometimes under moss pads. The fly has a pale brown abdomen with a dark median stripe. In the male the abdomen is upcurved and blackish.

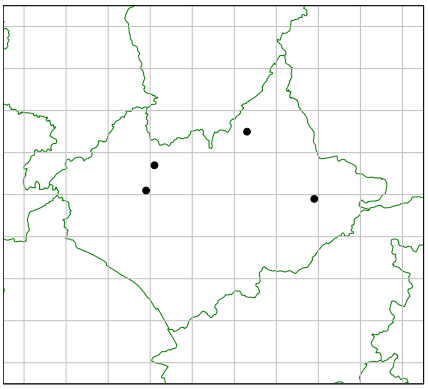
Vice noted the species at Buddon Wood (VCH-L, 1907) but it was not recorded again until 1976. Found throughout VC55 with identifications coming from experienced dipterists.



Tipula variicornis Schummel (4 records)

A widespread species in Britain the larvae inhabiting damp soil and leaf litter in woodland, near streams. In the adult the yellow abdomen with black rings is indicative of the two species of the *Schummelia* subgenus in the *Tipula* group. The male is distinctive because of the downward oriented dagger-like process at the end of the abdomen. Females need careful examination.

The four VC55 records all came from Alan Stubbs (1981-2006).

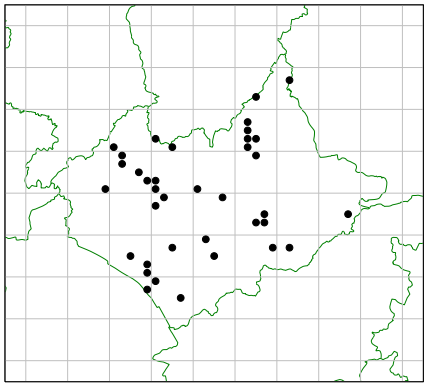


Tipula varipennis Meigen (51 records)

The larvae of this species occur in damp woodland soil. The adult fly has a dark grey body, varied mottled wings and black front femora.

Found throughout Britain and scattered throughout VC55 with a specimen from Great Merrible Wood, taken in 1999 by John Kramer deposited, in the county collections.

Sapcote, 2012 (Graham Calow, NatureSpot)

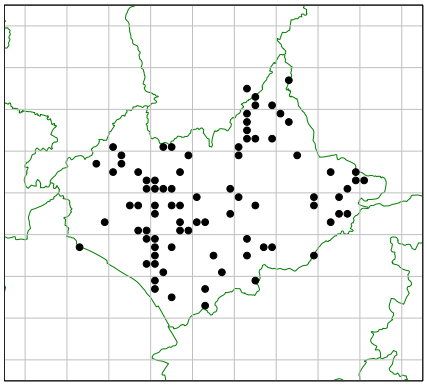


Tipula vernalis Meigen (144 records)

Grassland soil is the usual habitat where to find the larvae of this fly. The adult have wings that have streaky dark and white markings along with a white median longitudinal streak. A spring species found throughout England but less so elsewhere.

Found throughout VC55 with nearly all records occurring in May.

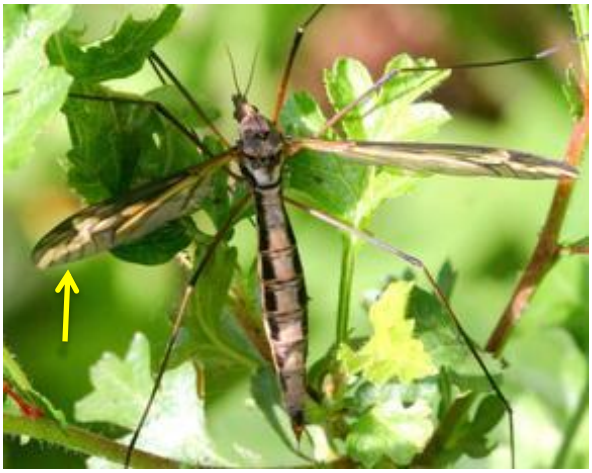
Whirlybones Wood, Ratby 2008
(David Nicholls, NatureSpot)



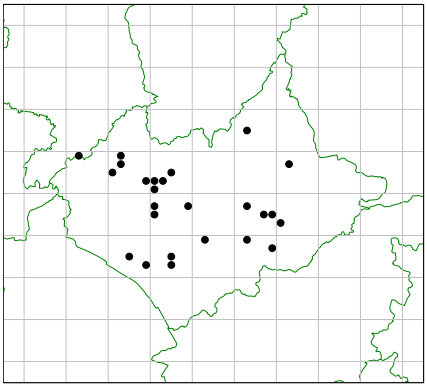
Tipula vittata Meigen (40 records)

The larvae of this tipulid can be found in the humus of moist to saturated soil, often at the edges of ponds and streams. The adult fly is distinguishable by having a white stripe reaching the edge of the strongly marked wings. It also has a grey abdomen with a black line down each side.

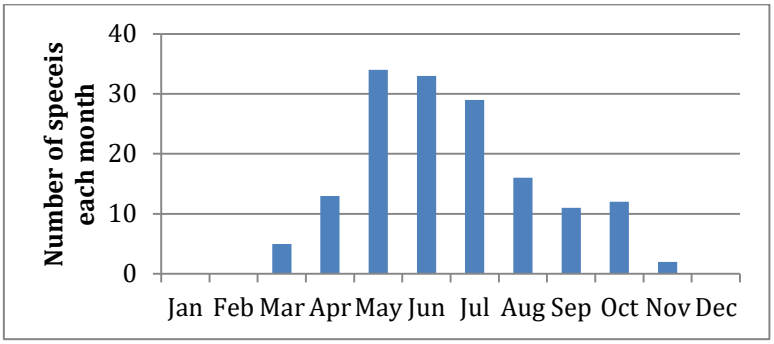
It is widespread throughout much of Britain and also VC55. Specimens from 1997 have been deposited in the county collections.



Martinshaw Wood, 2007 (David Nicholls, NatureSpot)



Appendix 1: Appearance of Tipulidae in VC55 to 2020.



Appendix 2: Time of appearance of Tipulidae species in VC55 to 2020.

Species	No recs*	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ctenophora pectinicornis	14					●	●				★		
Dictenidia bimaculata	13				★	●	●	●		●			
Neohrotoma analis	1							★					
Nephrotoma appendiculata	109				●	●	●	●					
Nephrotoma cornicina	12						●	●	●		★		
Nephrotoma crocata	3					●	★						
Nephrotoma flavescens	136					●	●	●	★				
Nephrotoma flavipalpis	17					●	●	●	★	●			
Nephrotoma guestfalica	3							●					
Nephrotoma quadrifaria	78			★	●	●	●	●	●				
Nigrotipula nigra	1							●					
Prionocera subsericornis	4					★	★		●				
Prionocera turcica	8					●	★	★	●				
Tanyptera nigricornis	2					★	★						
Tipula cava	4					●	●						
Tipula confusa	62								●	●	●	★	
Tipula couckei	7			★		★	●	●					
Tipula fascipennis	46					●	●	●					
Tipula flavolineatis	5					★	●						
Tipula fulvipennis	34						★	●	●	●	★		
Tipula helvola	8					●	★	●					
Tipula irrorata	2					★	★	★					
Tipula lateralis	121			★	●	●	●	●	●	●	★		
Tipula livida	1							★					
Tipula luna	53				●	●	●	★	★				
Tipula lunata	40			★	●	●	●	●	★				
Tipula luteipennis	8									●	●		
Tipula maxima	51			★		●	●	★	★	●			
Tipula montium	1							★					
Tipula oleracea	189				●	●	●	●	●	●	●		
Tipula pabulina	1					★							
Tipula pagana	52						★	★			●	★	
Tipula paludosa	153				●	●	●	●	●	●	●		
Tipula pekiostigma	7						●	●	★				
Tipula pierrei	1					★							
Tipula pruinosa	16					●	●	●					
Tipula rufina	28			●	●	●		★		★	★		
Tipula scripta	14					●	●	●	●				
Tipula selene	1					★							
Tipula signata	2										●		
Tipula staegeri	4									★	●		
Tipula submarmorata	12				●	●							
Tipula unca	27					●	●	●					
Tipula varicornis	3					★	●						
Tipula varipennis	51				●	●	●						
Tipula vernalis	141				●	●	●						
Tipula vittata	40				●	●	●						

★Single record only *No recs – number of records with month data
Nephrotoma submaculosa - 1 record but only year recorded

Appendix 3: Taxonomy of the Tipulidae

The 87 British species of the Tipulidae are often considered in terms of the sub-genus that they belong to as they may have distinguishing characteristics useful for identification purposes.

Taxonomic arrangement of the Tipulidae (DF, 2021).
(VC records in **bold**)

Genus - sub-genus	Species
Ctenophora - Cnemoncosis	*C. ornata*
Ctenophora - Ctenophora	*C. flaveolata,* ***pectinicornis***
Dictenidia	*D.* ***bimaculata***
Tanyptera	*T. atrata,* ***nigricornis***
Dolichopeza	*D. albipes*
Prionocera	*P. pubescans, s****ubserricornis****,* ***turcica***
Nephrotoma	*N. aculeate,* ***analis****,* ***appendiculata****,* ***cornicina****,* ***crocata****, dorsalis,* ***flavescens****,* ***flavipalpis****,* ***guestfalica****, lunulicornis,* ***quadrifaria****, quadristriata, scurra,* ***submaculosa****, sullingtonensis*
Nigrotipula	*N****. nigra***
Tipula – Acutipula	*T****. fulvipennis, luna, maxima****,* ***vittata***
Tipula - Beringotipula	*T****. unca***
Tipula - Dendrotipula	*T****. flavolineata***
Tipula - Lindnerina	*T. bistilata*
Tipula - Lunatipula	*T. alpina,* ***cava, fascipennis, helvola****, laetabilis,* ***livida, lunata, peliostigma****,* ***selene****,* ***vernalis***
Tipula - Mediotipula	*T. sarajevensis, siebkel*
Tipula - Odonatisca	*T. nodicornis*
Tipula - Platyptipula	*T****. luteipennis****, melanoceros*
Tipula - Pterrlachisus	*T****. irrorata****, luridocostris, mutila, pabulina, pseudovariipennis,* ***submarmorata****, truncorum,* ***varipennis***
Tipula - Savtshenkia	*T. alpium, cheethami,* ***confusa****, gimmerthall, grisescens, holoptera, invenusta, limbata, obsolete,* ***pagana, rufina****, serrulifera,* ***signata****,* ***staegeri****, subnodicornis*
Tipula- Schummelia	*T****. variicornis****, yerburyi*
Tipula - Tipula	*T****. oleracea, paludosa****, subcunctans*
Tipula - Vestiplex	*T. hortorum, montana, nubeculosa,* ***scripta***
Tipula - Yamatotipula	*T. coerulescens,* ***couckei****,* ***lateralis****, marginella,* ***montium****,* ***pierrei****,* ***pruinosa***

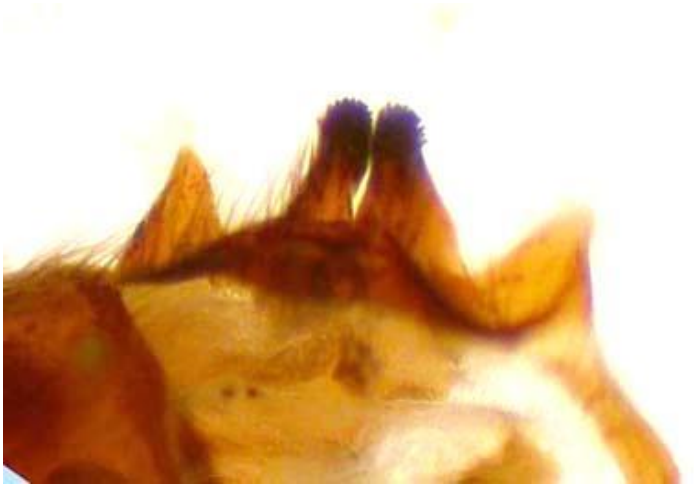
Appendix 4: The Identification of Tipulids

Many tipulids can be identified by their wing pattern and their jizz, rather like butterflies. All of the large *Acutipula* sub-genus (*fulvipennis, luna, maxima* and *vittata*) are like this. The genera *Ctenophora, Dictenidia, Tanyptera* and *Nigrotipula* are also easily named from a good photograph. The genera *Nephrotoma* and *Tipula* can present more of a problem and careful use of the key is necessary.

The identification of the subgenus Yamatotipula

Of the 14 sub-genera of *Tipula* found in Britain, *Yamatotipula* is one of the most problematic as it requires careful examination of the posterior claspers. The adults all look very similar to the common *T. lateralis* with a dark lateral line down each side of the abdomen and a similar wing pattern. The key characters are shown in the *British Craneflies*' key (p105-107). Five of the seven British members of this group have been found in VC55, and there seems no reason why *T. marginella* should not also be found. One diagnostic feature is the shape of the outer clasper, which ranges from narrow and feather-like in *T. pruinosa* to broad and almost square in *T. couckei*.

Showing the feathery outer clasper



Tipula pruinosa
Hind edge of abdomen.

Tipula lateralis (left – outer clasper with parallel sides)

Tipula montium - outer clasper approximately triangular)

Tipula couckei (left –outer clasper square)

Appendix 5: The statuses of the species of Tipulidae in VC55

Things have changed a lot since the first Red Data Book designations were published in 1987 and much more data has been gathered since then. The last status review was published in 2015 (based on 2012 data) but that was nearly 10 years ago. Since then many more records have resulted from the work of more recorders and (at least for the larger, commoner species) digital photography has yielded even more results. The data presented in the following table is based upon data up to 2019 collated by Peter Boardman, National Recorder for the craneflies.

There are a few different uses to which records collected by naturalists can be used and so data needs to be presented in a way that is fit for purpose. One of these is the conservation of rare species. As the human population expands inexorably, decisions have to be made where to build the necessary infrastructure. Any choice involves site evaluation and relevant questions are asked about the number of rare species on the site and their rarity. A Rarity Index for each species is a useful tool here, and the RIs for each species can be totalled for a site to give a score for its ecological value. However, on order to compare sites fairly, there must be a constant sampling and recording effort. If a group of ten people sees a species on a nature reserve and send in ten separate records, this cannot be fairly compared to a site where there was only a single recorder of that same species. The same reservation goes for variable numbers of visits. For this reason, the number of records per species is a weak index unless it is processed to remove these variables.

To compare the number of hectads (10x10km grid squares) in which the species occurs eliminates the error of multiple records for the same site. The recording effort will also vary across the area depending on the location of the recorders. Even on a local County basis the siting of moth traps, or Malaise traps will bias results.
Populations fluctuate wildly in Nature due to the effects of weather, predator/prey relations and parasitism. Even where a species is present it will be harder to detect when the population numbers are low. This means that all statements about the variations of abundance over space and time need to be very carefully evaluated.

The distribution of species is mapped as hectads (10kmx10km) on a national scale, or tetrads (2kmx2km) on a county scale and this gives us a good idea of the local abundance or rarity. However, note that these patterns depend on

the distribution of habitats. Abundance within the habitats is a separate issue. One reasons for mapping records on a national scale is that they can be correlated with the distribution of macro climatic or geological factors and thus shed light on the habitat requirements of a species. Another reason is to plot the change in area occupied by a species over time, perhaps, for example, in response to climate change. This may also be true on a local scale

Table to show the numbers of records for the Tipulidae in VC55

Species	National Risk Index (NRI)	Number of VC55:			Number of national:		
		Records	Tetrads	Hectads	Records	Hectads 1990-2014	Hectads up to 2019
Ctenophora pectinicornis	1	15	12	8	709	77	100+
Dictenidia bimaculata	1	14	9	7	598	88	100+
Nephrotoma analis	1	1	1	1	327	55	131
Nephrotoma appendiculata	1	114	67	24	3738	414	100+
Nephrotoma cornicina	1	12	7	5	498	99	100+
Nephrotoma crocata	2	4	3	3	239	19	87
Nephrotoma flavescens	1	137	60	23	3189	348	100+
Nephrooma flavipalpis	1	18	16	9	1289	186	100+
Nephrotoma guestflica	1	3	3	3	609	111	100+
Nephrotoma quadrifaria	1	80	44	20	397	394	100+
Nephrotoma submaculosa		1	1	1	735		100+
Nigrotipula nigra	1	1	1	1	720	83	100+
Pionocera subsericornis	4	5	3	1	71	12	13
Prionocera turcica	1	9	7	6	1366	149	100+
Tanyptera nigricornis	2	2	2	1	159	24	58
Tipula cava	1	4	2	2	787	143	100+
Tipula confusa	1	64	22	9	1812	180	100+
Tipula couckei	1	7	3	3	423	86	100+
Tipula fascipennis	1	46	32	20	2054	297	100+
Tipula flavolineata	1	6	6	4	762	128	100+
Tipula fulvipennis	1	35	23	13	2354	310	100+
Tipula helvola	2	8	4	3	274	48	81
Tipula irrorata	1	3	3	2	457	74	100+
Tipula lateralis	1	124	66	25	3983	450	100+
Tipula livida	3	1	1	1	115	20	37
Tipula luna	1	53	32	18	1886	304	100+
Tipula lunata	1	43	29	17	2345	323	100+
Tipula luteipennis	1	8	6	4	1273	100	100+
Tipula maxima	1	54	34	19	2617	333	100+
Tipula montium	1	1	1	1	608	91	100+
Tipula oleracea	1	193	98	28	6408	509	100+
Tipula pabulina	2	1	1	1	236	37	105
Tipula pagana	1	52	24	16	1846	205	100+
Tipula paludosa	1	157	73	25	6812	509	100+
Tipula peliostigma	2	7	5	4	120	16	44
Tipula pierrei	1	1	1	1	529	73	100+
Tipula pruinosa	1	17	14	9	554	84	100+
Tipula rufina	1	29	11	5	1128	111	100+
Tipula scripta	1	15	13	11	1857	264	100+
Tipula selene	2	1	1	1	114	21	46
Tipula signata	1	2	1	1	514	78	100+
Tipula staegeri	1	4	4	3	987	153	100+
Tipula submarmorata	1	13	10	6	818	127	100+
Tipula unca	1	28	22	15	1769	234	100+
Tipula variicornis	1	4	4	4	1220	251	100+
Tipula varipennis	1	51	37	21	1810	251	100+
Tipula vernalis	1	144	84	30	3294	381	100+
Tipula vittata	1	40	25	12	1376	184	100+

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