

# **Cranefly News**

**Dipterists Forum Cranefly Recording Scheme**For Superfamily Tipuloidea & Families Ptychopteridae & Trichoceridae

**Newsletter No 33** 

**Spring 2018** 

**Editor: John Kramer** 



#### **Editorial**

Thanks to the contributors for providing another very interesting issue. Many of the articles push forward our understanding of the craneflies, either through observations on ecology, or the taxonomic definitions of the different species. There are many suggestions where further work is needed and it is perhaps not surprising in the natural world that only about 350 species of craneflies can generate so many questions and so much interesting work.

#### **Records and Recording**

I am pleased to say that Pete Boardman will be taking over from me (JK) as the CRS Records Officer so please send your future records along to him. Many of you will know Pete for his work on Craneflies, his workshops and especially for his excellent Atlas of Shropshire Craneflies, the first issue of which has sold very well. Thanks to those of you who have already sent your 2017 records to me. I have passed some 2,000 of those on to Pete.

Pete will be using iRecord as the default data entry method though of course records submitted in Excel spreadsheets continue to be very welcomed. iRecord is being used in response to the large number of people who are now using this method to enter records, and when he became verifier for Craneflies nationally there was a backlog of around 5,000 records on there waiting to be looked at. iRecord allows for photographs to be submitted alongside the record so this enables beginners to have their records verified with some degree of confidence, as well as for the correct re-identification of howlers. He has also set up a Twitter account for the Cranefly Recording Scheme and hopes to use this to enable more people to identify species, to flag-up training events, work with new partners, highlight iRecord, support the Dipterists Forum Twitter account, and generally plug craneflies to a wider audience. It is also a good medium to discuss craneflies with international workers, and some discussion has already taken place about the use of data in phenology studies in the future. **Pete's email is**: <a href="mailto:pete.ento22@gmail.com">pete.ento22@gmail.com</a>

#### and the Cranefly Recording Scheme Twitter account is - @CRStipula

The 2017 records reveal among others, a new site for *Ellipteroides alboscutellatus*, discovered near Oxford by Judy Webb (see below) and Andrew & Janet Graham have recorded a new Merionethshire site for *Idioptera linnei*. This is also a site for the Large Heath butterfly and they suggest that bogs and acid moorland where this butterfly occurs would be good places to search for *I. linnei*. The larvae of the Large Heath feed on cotton grass while those of *I. linnei* require *Sphagnum* moss. Pete Boardman has also recorded a new site for this species (see below). In addition there has been the second Lake District record of *Ctenophora flaveolata* reported as emerging from an ash log near Elterwater by Leila Todhunter

#### Field work

# Further information on the habitat requirements of *Idiocera sexguttata* (Dale, 1842) at Cors Geirch, the Llŷn, Wales.

#### Alan Stubbs and Robert Wolton

Idiocera sexguttata is a small, attractive, but very rare cranefly known from only a handful of sites in Britain and from Denmark. In June 2016 Mike Howe discovered populations at Cors Geirch National Nature Reserve near Pwllheli on the Llŷn peninsula, north-west Wales (Howe, M.A. 2016. A new Welsh locality for the cranefly *Idiocera sexguttata* (Dale) (Diptera, Limoniidae) in 2015. *Dipterists Digest* 23: 47-48). The numbers found at Cors Geirch, a sinuous valley mire system, were higher than from any other British site, and Mike stressed the need to retain a robust population there. During the Dipterists Forum 2017 summer field meeting (10-16 June) several participants visited Cors Geirch and recorded the fly. We visited on 15 June, specifically to try and improve our understanding of The fly's precise habitat requirements.



Idiocera sexquttata, Cors Geirch, 15 June

Mike had already noted (in the paper cited above) that the fly is associated with base-rich seepages, and that at Cors Geirch the seepages are characterised by bare silty muds interspersed with carpets of brown moss and tussocks of black bog-rush Schoenus nigricans. He also helpfully recorded a number of associated plants.

Initially we swept across large areas in the southern part of the NNR with short fen vegetation, focussing on those with much black bog-rush in a largely closed sward, but without success. Eventually we chanced upon a very small more open habitat patch. covering no more than 50m<sup>2</sup> where we quickly swept about ten individuals before desisting. Later we visited the northern part of the NNR and found another small habitat patch, of about the same size, which a few sweeps revealed to also have the cranefly in good numbers. At both locations we made notes of the habitat and plants present and so are able to add a little to knowledge about the cranefly's habitat requirements.

A few centimetres of still or gently-flowing water covered much of the surface of both habitat patches at the time of our visit, with patches of bare mud exposed here and there. Beneath the water, 2017 Wing length 6mm. Photos Rob Wolton bladderworts were abundant at both sites, probably lesser bladderwort Utricularia minor. Frequent stems and leaves of blunt-

flowered rush Juncus subnodulosus emerged through the water, and more sparsely those of common reed Phragmites australis, slender sedge Carex lasiocarpa and water horsetail Equisetum fluviatile. Patches of bogbean Menyanthes trifoliata and bog pondweed Potamogeton polygonifolius were frequent, as were mats of the

mosses Philonotis calcarea and Campylium stellatum. Black-bogrush Schoenus nigricans was present at low frequency in the southern site but was rare in the northern one: here its place was taken by the nationally rare slender cottongrass *Eriophorum gracile*.

Also present at the northern site but not the southern one were occasional plants of marsh lousewort *Pedicularis palustris*, marsh arrowgrass *Triglochin palustris*, bog pimpernel *Anagallis* tenella, few-flowered spike-rush Eleocharis quinqueflora and toad rush Juncus bufonius. The small sedges Carex flacca/panacea and C. echinata were scattered throughout both patches, with C. demissa and C. lepidocarpa at the northern one. Both patches contained many clumps of the bog-moss Sphagnum subnitens rising clear of the water and mud. Upon these grew a number of plants typical of more acidic conditions such as round-leaved sundew Drosera rotundifolia, tormentil Potentilla erecta and cross-leaved heath Erica tetralix. Bogmyrtle Myrica gale bushes dominated drier ground around the wet places where we found the cranefly.

It is possible that bladderworts (not mentioned by Mike in his paper) are indicative of habitat patches suitable for the cranefly at Cors Geirch. It would be interesting to know more about the distribution of these plants on the site. The uncommon damselflies small red Ceriagrion tenellum and scarce blue-tailed Ischnura pumilio were both seen at the *l.sexguttata* patches, but were not restricted to them. The same applies for the flies *Erioptera nielseni*, Ochthera mantis and Oplodontha viridis.



Idiocera sexguttata habitat patch at Cors Geirch.

The cranefly apparently uses only very small parts of the NNR so the identification and maintenance of these may be critical for its long term survival there. The southern site was being grazed by a few ponies at the time of the visit and these appeared to be doing a good job of keeping the site open and the sward with a varied structure without causing excessive poaching of the cranefly patches. The northern part of the site had been grazed recently by cattle - again, these appeared to be doing a good job. Nevertheless a few alder seedlings Alnus glutinosa were present on the southern site, and grey willow Salix cinerea ones on the northern site, so an eye needs to be kept on these.

Thanks to John Day for advice on identification of bladderworts and for information about the NNR, to Mike Howe for checking through this note, and to Will Field for clever photo improvement.

#### Alan Stubbs and Robert Wolton

# A summary of cranefly sightings from 2017 Pete Boardman

I have been lucky enough once more this year to have travelled around much of England with my job and so this a review of some of the cranefly highlights of my year. One of the sites I regularly visited, Kings and Hargreaves Wood SSSI in Staffordshire, was not perhaps the most promising for craneflies but turned up some interesting and unexpected species using the methodology of Vane trapping (i.e aerial-mounted flight interception traps. See photo) that were run from April until October. Whilst this was done principally for beetles there was a reasonable amount of fly by-catch including craneflies. Amongst the craneflies that found their way in the traps were *Ctenophora pectinicornis*, *Tipula irrorata*, *T. truncorum*, *Achyrolimonia decemmaculata*, *Atypophthalmus inustus*, *Neolimnophila carteri* (Nationally Rare), and *Rhipidia ctenophora* (Nationally Rare). The latter two species appear to be new to Staffordshire. It seems *Tipula truncorum* is difficult to find without using such a methodology as this.

I spent a day in late May on some arable margin sites in the Brecks where *Nephrotoma crocata* had been seen only a couple of days earlier by one of my colleagues, a non-entomologist, who had sent me a photo on WhatsApp saying "just seen this pretty cranefly, what is it?". That species is my long term nemesis and I always seem to miss it. Anyway on my visit predictably I didn't see that *N. crocata* but did find several *Nephrotoma submaculosa*, which are usually coastal but clearly the warm sands of the Brecks are suitable habitat.



I did some work on various heathlands in the south of England where I found *Phylidorea abdominalis* and *Erioptera nielseni* fairly frequently on Winfrith Heath and Hartland Moor in Dorset. I and my colleagues Vicky Gilson and Des Sussex all found *Idioptera pulchella* at Ash Ranges in Surrey alongside other bog species *Molophilus occultus*, *Phylidorea squalens*, *Prionocera turcica*, and *Tricyphona schummeli*. Whilst passing Sullington Warren in Sussex I called in to look once more for the enigmatic *Nephrotoma sullingtonensis*, once more without success. (John Kramer and I failed to find it in 2016). I'm going to give it another go next year with a friend as it would be amazing to know whether it is still on the site after which it was named, having never been recorded anywhere else in the UK. If anyone else fancies joining us drop me a line.

I was mightily surprised to find a new location for *Idioptera linnei* in Shropshire in late June. The site, Hodnet Heath SSSI is someway from the known populations at Fenn's, Whixall & Bettisfield Mosses NNR. It was found on a bakingly hot day on some former ponds that have been overtaken by Sphagnum mosses and formed into a schwingmoor, though this habitat is really quite limited at the site. Pretty much all other parts of the site were bone dry but it is hoped the hydrological problems at the site will be resolved.

I visited the River Rye at Duncombe Park, North Yorkshire, on a few occasions and recorded *Eloeophila apicata*, *E. verralli*, *Gonomyia* 

abbreviata, Hoplolabis vicina, and Rhabdomastix edwardsi from the riverine sediments. I'm not sure I quite agree how the cranefly keys separate out *Gonomyia abbreviata* in terms of the angle of the R2 vein as my specimens weren't as vertical as is implied. Fortunately Pjotr Oosterbroek's Catalogue of the Craneflies of the World website (http://ccw.naturalis.nl/) came up trumps with a wing photo that matched my specimens exactly. *Eloeophila verralli* was notable by how many flies were present with twenty or thirty swept at a time.

I surveyed part of Lindisfarne NNR on a couple of occasions during the year and found a range of common species with the saltmarsh specialist *Molophilus pleuralis* the pick. *Prionocera turcica* was swept from wet rushy dune slacks. There are not many records in the area for that species.

My favourite location of the year was the week spent on the slumping coastal cliffs on the Isle of Wight. A couple of surprising finds were *Molophilus czizeki* and *Dicranota claripennis*, both new to the IOW. *M.czizeki* seems to be more of an upland thing apparently with few other records. I'm more used to encountering *Dicranota claripennis* in hilly, moorland locations, so it was a surprise to find it close to the sea on the Isle of Wight. Other interesting flies were the more expected *Dicranomyia goritiensis* from coastal cliffs, only the second IOW record for *Dicranomyia morio*, and *Gonomyia conoviensis*.

Talking of craneflies in unexpected places I was intrigued by some DNA work that a company called Naturemetrics did around the Bernwood Forest area on the Oxfordshire / Buckinghamshire border this year. The work concentrated on identifying invertebrates within the dung of Bechstein's Bat. Amongst the list of identifiable insect debris with enough DNA to use were two craneflies; a *Nephrotoma* (species unknown) and *Molophilus occultus*. There are no "traditional" records of *M. occultus* from either Oxfordshire or Buckinghamshire (unless you know different, reader) and it is a species of wet heath and bog, again not ten a penny in those counties. From what I'm led to believe the samples were taken in woodland, which is far from *M. occultus* habitat, so the

mystery remains. Is the DNA analysis accurate? Was the cranefly a random stray that was unfortunate enough to be gobbled up the bat? Are there populations of this species in Oxfordshire / Buckinghamshire that remain to be found? We are being encouraged to get involved and develop more and more DNA projects at work and they may indeed enable us to carry out survey work more cheaply and more thoroughly than using the taxonomic identification methods we all know and love. But without the knowledge to interpret these results and question the outputs, and give it context, is it valid? Time I guess will tell.

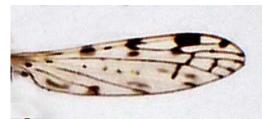
#### Pete Boardman

## An inland record of *Dicranomyia goritiensis* (Mik, 1864) from Dartmoor, Devon Robert Wolton

This cranefly occurs at numerous localities around the coasts of Wales and south-west England, and sporadically elsewhere around Britain – but just about always on steep seepages and flushed rock faces not far from the coastline. So, it was with some surprise that I found it last year on Dartmoor, at a place which is about as far away from the coast as it is possible to get in Devon and at an altitude of 280m above sea level. The location is a very small disused quarry, Meldon Aplite (SX56809209), on the north-western side of Dartmoor near Okehampton. Here I found the fly in 2017 on 2 May (one female), 11 May (one male) and 22 May (one female) by sweeping a sheltered vertical rock face streaming with water and covered with bryophytes.

Meldon Aplite Quarry is a geological Site of Special Scientific Interest (SSSI) notified for the presence of a suite of very rare granitic minerals. Many of these are unknown elsewhere in Britain and only known from a few localities in the world. The aplite (fine-grained igneous rock) is lithium- and beryllium- rich, with caesium and

boron.



*D. goritiensis* wing. Photo. R. Wolton The site comprises two quarries – *D. goritiensis* was found in the small northern one, now largely hidden behind scrub. I do not know the Ph of the water running down the rock face, but the vegetation suggests it is moderately base-rich. There are, however, no limestone outcrops in the immediate vicinity as far as I know.

Geoff Hancock (Cranefly Recording Scheme Newsletter No. 17, Autumn 2008) gives details of a specimen in the Hunterian Museum (Zoology) (University of Glascow) collected on 26 June 1967 by Geoff Hosie from the Spout of Ballagan (NS572801), near Strathblane (about 10km north of Glasgow). Here a waterfall flows over lime-rich rocks at a height of 200-250m above sea level. This would appear to be the only other inland record in Great Britain. John Kramer (Cranefly Recording Scheme Newsletter No. 18, Spring 2009) has checked as many sources as he could on this account, including the collections held in the National Museum of Wales and the Natural History Museum. He asked recorders to explore suitable inland sites, including quarry faces. Sound advice, but my discovery was by sheer chance.

In continental Europe, *D. goritiensis* appears to be regularly recorded inland (e.g. Kolcsár *et al.* (2015). New records of Limoniidae and Pediciidae (Diptera) from Croatia. *ZooKeys* 513: 23–37).

No other craneflies of particular note were found in the northern quarry at Meldon Aplite despite visiting the site most months between May and November. However the southern quarry, which has shallow standing water supporting mire and bog plant communities typical of the acidic conditions typically found on Dartmoor, had numerous *Triogma trisulcata* (Schummel, 1829) on 2 May 2017. The scarce blue-tailed damselfly *Ischnura pumilio* (Charpentier, 1825) was recorded there on 22 July.

My thanks to Pjotr Oosterbroek for the excellence of his online Catalogue of the Craneflies of the World as a source of references.

#### **Robert Wolton**

## Riverflies and Tipulidae Alan Rowland

In co-operation with Anglers Riverfly Monitoring Initiative (<a href="http://www.riverflies.org/">http://www.riverflies.org/</a>) and Cornwall Wildlife Trust (<a href="http://www.cornwallwildlifetrust.org.uk/">http://www.cornwallwildlifetrust.org.uk/</a>) the Riverfly project was introduced to Cornwall in late 2016.

After some training and selection of sites, our surveys commenced in the spring of 2017. Initially the surveyors, most of whom were new to freshwater invertebrates, were happy to be able to identify and quantify seven mayfly larvae and one *Gammarus* species to genera. However once they were confident with these eight, they began to notice the regular appearance of other invertebrates. Almost the first ones were the huge unsightly (!!!) and, initially unwelcome cranefly larvae. Now, these regularly feature in the monthly surveys, with two other Tipuloid larvae being queried as to species.

Larvae of the genus *Tipula* (Family Tipulidae) are large, up to 50mm, and have two posterior spiracles (looking like eyes!) and up to eight lobes depending on species. Gaseous exchange, and perhaps osmoregulation, take place through these lobes, or papillae. (Fig. 1a and 1b)

Larvae of *Dicranota* (Family Pediciidae) are smaller, up to 40mm and have 5 pairs of prominent prolegs. (fig 2a and 2b) which are diagnostic.

Larvae of *Pedicia* (Family Pediciidae) are up to 20mm and characteristically inflate their penultimate segment and have 4 pairs of less obvious pro-legs.



Figure 1. a) Larva of Tipula fulvipennis.



b) lobed posterior gills.

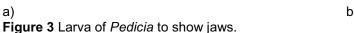
Every month surveyors revisit their selected locations and perform a standard 3-minute kick sample. The resulting catch is then sorted into the eight indicator species – cased and uncased caddis larvae (Trichoptera); four different mayfly larvae (Ephemeroptera) belonging to mayfly families Ephemeridae, Ephemerellidae (Bluewinged olive), Heptageniidae Flat-bodied mayfly, and Baetidae (Olives); stonefly larvae (Plecoptera) and the adult freshwater shrimp (*Gammarus pulex*). Each site has a trigger level related to presence and abundance. If the figure each month is more that this figure then the site remains healthy. Falling to or below the trigger instigates a review process which ultimately can result in EA involvement to ascertain if there has been a pollution incident.





**Figure 2** Larva of *Dicranota* – Head (on right) partially retracted and 5 pairs of prolegs. These thin walled structures will also act as gills.







These are voracious predators and their dangerous-looking jaws are evidence of this. (Fig. 3b)

In Cornwall we have sites in 4 catchment areas – most are in the Bude area covering the Strat/Neet catchment, a few more in Looe covering the East and West Looe catchments, with the remainder in West Penwith on the Cober catchment with a few sites on the Fal and around Hayle.

#### Results

So far, in the first year, up to the end of 2017 we have recorded the large conspicuous *Tipula* larvae at 16 of the 20 sample sites. *Pedicia* (4 sites) and *Dicranota* (4 sites) have been recorded much less frequently, but they may also be less abundant at the sample sites, since both of these pedicciines are secondary consumers and higher up the food chain as can be seen from their dangerous-looking jaws in fig. 3. It will be interesting to see what differences occur at the different recording stations as the work continues.

#### **Acknowledgements**

Thanks to my colleagues Alison Wood, Martin Dancey, Euan McPhee, Gill Weghofer, John Eddy, Matt Nott, John Meakin, Lowena Arnold, Steve Woods, Laura Fox and Teagen Hill who shared the field- and identification work to collect this data.

### A new regional checklist for the craneflies and winter gnats of Lancashire and Cheshire Phil Brighton

Over the past five years, I have made several mentions in the Bulletin of the *Diptera of Lancashire* and *Cheshire Part I* by Leonard Kidd and Alan Brindle, covering the families from Tipulidae to Syrphidae. The main volume was published in 1959, with two supplements by Leonard Kidd detailing additions in 1964 and 1971. It has become my over-arching objective to update this work and extend it to cover the Acalyptratae and Calyptratae. A big step forward this year has been the production of the regional list for the Craneflies and Winter Gnats, as covered by the Cranefly Recording Scheme (Tipulidae, Cylindrotomidae, Pediciidae, Limoniidae, Ptychopteridae and Trichoceridae). The area covered is the three vice-counties of Cheshire (VC58), South Lancashire (VC59) and West Lancashire (VC60). This article summarises the information which can be found in a full report which is available from the Liverpool Museum Tanyptera Project website.

Data was gathered from a variety of sources including: the Manchester Museum card index started by Harry Britten which was the basis of Kidd and Brindle's list; the NBN Gateway; iRecord; the four local records centres operating in the region; and my own personal records. The total was over 14,900 records which break down by source and vice-county as follows:

Data Source	VC58	VC59	VC60
Harry Britten cards	1126	869	66
iRecord & others	24	43	99
LRCs	3947	1365	155
NBN Gateway	1569	2093	1227
P Brighton	901	1441	34
TOTALS	7567	5811	1581

Only limited validation has been carried out. A number of records of rare and implausible species have been omitted, primarily where the recorder was anonymous or a non-specialist. A number of other records were found with incorrect grid references and a few others had dates incompatible with the active dates of the named recorder. Such records have also been omitted. Numerous uncertainties remain, which may or may not be resolvable by further enquiries: these could take a long while, and it has been thought better to issue the list now rather than seeking an unachievable state of perfection.

The combined dataset has been analysed using Excel spreadsheets and pivot tables to provide distributions of records by decade and by hectad (10km) square.

First by decade:

Decade	VC58	VC59	VC60
Pre-1900	68	94	0
1900s	10	23	0
1910s	89	24	0
1920s	433	273	10
1930s	332	268	7
1940s	899	411	7
1950s	170	897	99
1960s	88	213	107
1970s	392	1102	541
1980s	124	313	141
1990s	1850	359	320
2000s	1828	195	29
2010s	1284	1638	320

This table shows the influence of Harry Britten during the 20s, 30s and 40s, with Cheshire visited rather more often than Lancashire. Alan Brindle's records start in 1937 but were interrupted by war service. His contributions then extend from the 1950s through to 1982 when he retired from Manchester Museum. His records are strongly concentrated in areas of both the Lancashire vice-counties. It is also worth noting that he had a particular interest in cranefly larvae, and also other aquatic larvae. There was a lull in cranefly recording in the 1980s but during the 1990s and 2000s, the Cheshire numbers were greatly increased by Bill Hardwick. In the present decade, my own records have contributed at a similar level of effort in Cheshire, and rather more so in South Lancashire. Of course, many others too numerous to list have also contributed.

There is a marked variation in the number of records per hectad. For instance, square SD42 has only 5, even though it contains part of the Ribble Estuary National Nature Reserve and the RSPB's Hesketh Out Marsh. The following table shows the most-recorded hectads in each vice-county.

VC	Hectad	Description	No. of records	No. of species
58	SJ57	Frodsham and Delamere Forest	1090	139
58	SJ66	Winsford and the Weaver Valley	1056	127
58	SJ88	South Manchester and Wilmslow	819	142
58	SJ98	Stockport, Marple and Poynton	776	109
59	SJ69	NE Warrington and the Manchester Mosses	1189	109
59	SD73	Whalley and Padiham	559	126
59	SD61	NW Bolton and Winter Hill	397	107
59	SD84	Pendle Hill and Barnoldswick	318	96
60	SD47	Silverdale area	573	117
60	SD63	Longridge area	165	74

The tally for SJ57 was significantly boosted by an invertebrate survey in 2003 for the Lost Meres and Mosses project by Martin Drake, and I have been carrying out further surveying there in the last few years. SJ66 is the home square of Bill Hardwick and as well as the Weaver Valley it contains the classic dipterising sites of Pettypool and Newchurch Common. SJ88 includes the Bollin Valley and Cotterill Clough: the latter was much frequented by Harry Britten and appears to have retained much of its diverse cranefly fauna despite its proximity to Manchester Airport (see the Spring 2016 Cranefly News #32 in the Autumn 2016 DF Bulletin). SJ98 also owes its prominence largely to historic records by Harry Britten and others.

Turning to South Lancashire, my home square SJ69 has become the most worked of all in the region but is relatively poor in species, as it has little extent of woodland and no upland areas. Alan Brindle worked extensively in SD73 and SD84 near to his home town of Nelson. SD61 was covered by entomologists based at Bolton Museum in the 70s and 80s and is the scene of renewed recording effort following the acquisition of the Smithills estate by the Woodland Trust.

The large number of species in the last three VC59 hectads relative to the number of records is noteworthy. The SD73 and SD84 records are largely due to Alan Brindle, and SD61 was explored by staff from Bolton Museum, who had a base a Smithills Hall.

As a result of the much lower overall level of recording only two squares VC60 rank alongside the above. The Silverdale records were boosted by the Dipterists Forum Field meeting of 1999.

There is no simple relation between number of records and the number of species recorded in a hectad. Apart from the underlying numbers of species present, this is affected by the increasing propensity of recorders in recent decades to record common species more thoroughly and at a higher grid resolution.

The species lists for each vice-county use a format similar to that of the Cumbrian diptera checklists produced by Steve Hewitt (see the Carlisle Natural History society website). Here is an extract for the Cylindrotomidae in Cheshire:

VC58 (Sub)Family/Species	No of Records	Earliest	Latest	No of Hectads
CYLINDROTOMIDAE	65	1905	2017	14
Cylindrotoma distinctissima	27	1920	2015	8
Diogma glabrata	15	1937	2003	4
Phalacrocera replicata	22	1905	2017	7
Triogma trisulcata	1	2016	2016	1

A combined regional checklist is also included, with additional information on additional status and a flag for species not recorded in one of the pre-1970 and post-1970 periods, corresponding to the date of the last checklist update. For the Cylindrotomidae, all species have at least one record in both periods.

(Sub)Family/Species	National status	Pre/post 1970	VC58	VC59	VC60	Total
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CYLINDROTOMIDAE						
Cylindrotoma distinctissima			27	9	14	50
Diogma glabrata	Scarce		15	8	14	37
Phalacrocera replicata	Scarce		22	16	2	40
Triogma trisulcata	Rare		1	11		12

The full report includes notes on remaining uncertainties in the data for the scarce and rare species and comments on the distributions in space and time for these and other less common species. Full species accounts have not been included, as there is information for most of our species readily available elsewhere.

The number of species on the list for each vice-county are 235, 224 and 192 for VC58, VC59 and VC60 respectively, and the overall list has 264 species, amounting to 75% of the British total of 353. These numbers are subject to uncertainty because as noted above not all records have been or indeed can be fully verified. This compares to only 58% for the soldierflies and allies, a group with many species confined to the south, and 69% for the Sepsidae, a relatively poorly recorded family. Pete Boardman's *Shropshire Craneflies* found 245 species based on 10,000 or so records. In Cumbria, Steve Hewitt's list has 271 species from only 6092 records indicating perhaps a greater extent of relatively undisturbed habitats.

There are 25 species listed as nationally rare and 55 as nationally scarce. 15 species have not been recorded since 1970, but 33 species have been added to the list. No general conclusion can be drawn from this, but the predominant reason is probably simply the amount of recording effort, including several specialised surveys. For a few species an apparent systematic local or national pattern of expansion of range or change in abundance has been detected, and is discussed in notes in the Appendix of the report. However, that is not to say that more such changes might come to light with a more extensive examination of the data.

#### **Acknowledgments**

Thanks are due to RECORD, Merseyside Biobank, Greater Manchester Local Records Centre, Lancashire Environmental Record Network and the NBN Gateway for the provision of data, to World Museum Liverpool and Manchester Museum for access to their collections and internal records, and of course to all the original recorders.

#### **Phil Brighton**

#### A new site for Ellipteroides alboscutellatus



Male E. alboscutellatus.

Photo JK. ©NHM London

Ellipteroides alboscutellatus is a very local cranefly the ecology of which has been well studied by David Heaver (Heaver, 2006. Dipterists Digest 13, 1, Heaver, 2014. Dipterists Digest 21, 1). It is strongly associated with 'perched springline' calcareous tufa flushes, and a faithful indicator of this habitat is the moss Palustriella commutata commutata (= Cratoneuron commutata commutata)

Judy Webb found this cranefly in good numbers on 7 July 2017 at the Local Wildlife Site, Worton Wood, near Oxford. They were flying around tufa springs where the moss *Palustriella* (*Cratoneuron*) *commutate* grows, together with an assemblage of other cranefly species. The sample was sent to JK and some 24 other cranefly species were found in that community. Many were common woodland or wet woodland species, but others such as *Gonomyia recta* and *Paradelphomyia dalei* are indicators of a calcareous habitat. *Neolimnomyia batava* was abundant, and amongst the *Molophilus* were *bifidus* and *corniger*. It would be interesting to see how the geology of this new site fits with the general pattern in relation to David Heaver's detailed work. If your

the general pattern in relation to David Heaver's detailed work. If your local Bryologists have a recording scheme it would be well worth visiting any *Palustriella sites*. The flight period is from 10 June (exceptionally early) to 28 August, with July being the most likely time of emergence.

John Kramer

# Some early spring records of craneflies from sandy stream margin in Stirlingshire, 2016

#### **E G Hancock**

As part of a Bioblitz event at the Altquhur Burn (NGR: NS481867) on 22 April 2016, a number of craneflies were recorded. Following an extensive period of subzero temperatures there were two days of warmth and sunshine on the second day of which the following species were swept or collected by searching on this small tributary of the Endrick Water near Loch Lomond. The whole of the Endrick catchment area flows through alluvial deposits and is extremely well endowed with exposed riverine sediments (ERS) habitat. Although narrow and bordered by alder at this particular section of the stream there was a considerable amount of fine sand and silt in addition to coarser gravels. Most of the collecting was confined to fine sand so I did not expect to find *Dicranota robusta* with two other pediciines, *D. bimaculata* and *D. guerini*. The final list included *Tipula lateralis*, *Erioconopa trivialis*, *Erioptera lutea*, *Hoplolabis vicina*, *Limnophila punctata*, *Limonia nubeculosa*, *L. dilutior* and *Ptychoptera albimana*. Not all these are associates of ERS; the main interest on this occasion was the number of species at an early date prior to which none of the usual vernal craneflies, such as *Tipula rufina* had been seen anywhere locally in 2016. Give the very cold conditions immediately preceding this day the adults seem to have emerged and become active on a very short time scale.

E G Hancock, Hunterian Museum, University of Glasgow.

**Pjotr Oosterbroek** will need no introduction to many in the CRS. He has been working professionally in Amsterdam with craneflies for many decades and has set up the indispensable 'Catalogue of Craneflies of the World' (http://ccw.naturalis.nl) He has also done a lot of work since the 1970's with the genus *Nephrotoma* (the yellow and black tiger craneflies) and he offers the observations below on a part of the current version of the 'Key to species of Long-palped Craneflies other than *Tipula*' It is with female specimens that some confusion can occur and the flagellar segments of female *lunulicornis* are shorter than those of female *dorsalis* and not longer as stated in the current key. If possible, any key needs to distiguish between species where the antennae are absent or damaged, and future revisions of the British key will need to bear this in mind. There are 15 *Nephrotoma* currently on the British list and this paper deals with 5 of these which, for those wishing to amend their keys, are near the end of the *Nephrotoma* section. **Ed.** 

# Recognition of the species of the *Nephrotoma dorsalis* group Pjotr Oosterbroek

In Northwest Europe, including the British Isles, we find four species of *Nephrotoma* belonging to the *dorsalis* group. These species are characterized and easily recognizable by the straight lateral stripes on the dorsal thorax, in combination with an elongated body (fig. 13). In other *Nephrotoma* of NW Europe the lateral thoracic stripes are downcurved at the anterior end with the exception of *N. aculeata*, a member of the *N. cornicina* group, which has an isolated spot below the anterior end of the lateral stripes (fig. 7). This spot,

however, is known to be absent in a few specimens, in which case the dorsal thoracic stripes resemble the *N. dorsalis* group. Therefore, *N. aculeata* is included in the key presented as an appendix below. First short descriptions are given of the four *N. dorsalis* group species. Plates are presented on the final pages. This is without references to the very distinctive male genitalia. For this see the descriptions and illustrations in Oosterbroek 1979 and Tangelder 1984 (the images from these two papers are repeated, including many others in Oosterbroek 2018).

#### Nephrotoma dorsalis (Fabricius, 1781)

Male antenna long, more than 2x length of thorax, with 19 segments, lower flagellar segments distinctly reniform (Fig. 1), female with 15 antennal segments (Fig. 2). Head with a distinct and elongate occipital marking, lateral side of head without dark spot along eye margin. Dorsal thoracic stripes uniformly dark brown (Fig. 1, 2). Wing stigma distinct, dark brown; crossvein below wing stigma clouded, as in *N. lunulicornis* (Fig. 9).

Mainly found at exposed riverine sediment habitats but also in wet and dry deciduous woodland; adults prefer shade or at lest tall vegetation for resting in, needing sandy water margins for development (Drake 2010, Roper 2004, Wolton et al. 2017).

Distributed throughout Great Britain. Period of flight from the end of May to the end of August.

#### Nephrotoma lunulicornis (Schummel, 1833)

Male antenna about 1.5x length of thorax, male basal flagellar segments not reniform, with basal nodes only, male and female with 13 segments. Head with a distinct and long occipital marking, side of head with dark lateral spot along eye margin (Fig. 8). Dorsal thoracic stripes uniformly dark brown (Fig. 8). Wing stigma distinct, dark brown; crossvein below wing stigma clouded (Fig. 9).

A species of exposed riverine sediment habitats but also of wet and dry deciduous woodland; adults prefer shade or at lest tall vegetation for resting in, needing sandy water margins for development (Drake 2010, Hewitt et al. 2005, Nielsen & Nielsen 2009).

Distributed throughout Great Britain. Period of flight from the beginning of May to the end of August.

#### Nephrotoma quadristriata (Schummel, 1833)

Male antenna long, about 2x the length of the thorax, with 13 segments, lower flagellar segments distinctly reniform (Fig. 11), female with 13 antennal segments. Occipital marking ranging from weak to distinct, if distinct than triangular (Fig. 11) or acute but never as broad and prolonged up to the frontal tubercle as in *N. dorsalis* (Fig. 3) and *N. lunulicornis* (Fig. 8); lateral side of head with dark spot along eye margin (Fig. 11). Dorsal thoracic stripes uniformly dark brown (Fig. 11). Wing stigma usually weak to light brown, rarely dark brown; crossvein below wing stigma not clouded (Fig. 10).

The species has been recorded from a large variety of habitats, ranging from sand dunes, fairly dry pine (*Pinus*) and beech (*Fagus*) forests to meadows, springs, mountain streams, and swampy river beds. It apparently has a strong preference for sandy or gravelly soils in combination with nearby moist places (Oosterbroek & de Jong 2001 and references cited therein). Further details are in Stubbs 2003.

In Great Britain the species is largely confined to the major sand dunes systems at the west coast of England and Wales, with only a few records inland and along the south coast. Period of flight from mid May until the end of September.

#### Nephrotoma scurra (Meigen 1818)

Male antenna about 1.5x the length of the thorax, male basal flagellar segments weakly reniform, male and female with 13 segments. Head usually with a weakly indicated occipital marking, the area between eyes and occipital marking being often somewhat infuscated (Fig. 12, 13); rarely with lateral spot along eye margin. Dorsal thoracic stripes not uniformly coloured, especially the two stripes on the postsutural part (between the wings) lighter coloured towards their end, lateral stripes frequently also in part lighter coloured (Fig. 12, 13). Wing stigma weakly indicated, at most light brown; crossvein below wing stigma not clouded (Fig. 13).

The most common species of the *N. dorsalis* group. In general associated with dry sandy soils such as lowland heath, coastal sand and grassland, sandy river margins, adults prefer hedgerows and scrub edges; in a few instances found on peat, swamps or on farms with a variety of soils (Stubbs 2003, Boardman 2007, 2016, Kramer 2008, Ujvarosi & Poti 2006).

Distributed throughout Great Britain. Period of flight from mid May to the end of September.

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#### **Appendix**

#### Key [Please see pages 15 & 16 at the end of the newsletter for the figures]

1.a. Dorsal thoracic stripes not uniformly coloured, especially the two stripes on the postsutural part (between the wings) lighter coloured towards the end, lateral stripes frequently also in part lighter coloured (Fig. 12, 13). Dorsal abdominal stripe narrow, about 2x diameter of femora (Fig. 13).

Nephrotoma scurra

2

3

4

- 1.b. Dorsal thoracic stripes uniformly dark brown (Fig. 1, 2, 7, 8, 11). Dorsal abdominal stripe variable but spots broader than 2x diameter of femora, sometimes and especially in males stripe or spots less distinct toward end of abdomen.
- 2.a. Lateral side of head without dark spot along eye margin (Fig. 1, 2, 7). Male antenna with 19, female with 15 segments (Fig. 1, 2: *N. dorsalis*) or both sexes with 13 segments (*N. aculeata*).
- 2.b. Lateral side of head with dark spot along eyemargin (Fig. 8, 11). Male and female with 13 antennal segments.
- 3.a. Antenna in male with 19, in female with 15 segments (Fig. 1, 2). Anatergite (thoracic part next to mediotergite) yellow (Fig. 1). Abdominal dorsal stripe usually narrower on tergite 1, at most as broad as on tergite 2; tergite 8 black (Fig. 3, 5). Male hypopygium: sternite 8 with the extended lateral parts forming a pair of lobes (Fig. 3). Female ovipositor: cerci apically somewhat downcurved with a blunt end (Fig. 5).
- Nephrotoma dorsalis
  3.b. Antenna with 13 segments. Anatergite blackened (Fig. 7). Abdominal dorsal stripe on tergite 1 broader than on first part of tergite 2 (Fig. 7); tergite 8 not entirely black (Fig. 4, 6). Male hypopygium: sternite 8 bearing a spine-like median projection (Fig. 4). Female ovipositor: cerci slightly upturned with a more acute end (Fig. 6).

  Nephrotoma aculeata
- 4.a. Head with a distinct and elongate occipital marking (Fig. 8). Wing stigma distinct, dark brown; crossvein below wing stigma clouded (Fig. 9).

Nephrotoma lunulicornis

4.b. Occipital marking ranging from weakly indicated to distinct, if distinct than triangular (Fig. 11) or acute but never broad and prolonged up to the frontal tubercle as in *N. dorsalis* (Fig. 2) and *N. lunulicornis* (Fig. 8). Wing stigma usually weakly light brown, rarely dark brown; crossvein below wing stigma not clouded (Fig. 10).

Nephrotoma quadristriata

#### **Pjotr Oosterbroek**

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### Nephrotoma crocata (Linnaeus, 1758) reared from riverbank sand deposit in Cumbria Steven Hewitt

In spring 2017, whilst searching for stiletto fly larvae in flood-deposited sand on the banks of the River Eden in Cumbria I also collected other Dipteran larvae encountered. All larvae were reared individually in plastic pots containing a little sand and emergent adults were identified. In one sample on 26 April from the river near Lazonby (NY565391) a single Tipulid larva was collected from a 1m² quadrat of thinly vegetated sand, partially shaded by riparian trees. The quadrat was on a bank of loose sand on the field margin at the top of the riverbank 3m above river level and 10m from the water's edge. This bank of sand having been bulldozed off the field after it was inundated in a flood some 16 months previously. The larva later pupated and, in due course, an adult male of *Nephrotoma crocata* emerged.

Falk (1991) lists *N. crocata* as nationally Rare, with records widely dispersed in England, extending thinly into Wales and up to Midlothian in Scotland. He notes a marked decline in observations of the species, which in the past was quite frequent in southern counties and parts of northern England, particularly Yorkshire and Surrey.

This pattern of decline is also apparent in the Cumbrian data, where a number of early 20th century records made by members of Carlisle Natural History Society (CNHS) are recorded in the manuscript list of Cumbrian Diptera compiled by F.H. Day (Day 1950) - Tarn Lodge[NY55H], Cowran Cut [NY5156] (G.B. Routledge); Orton [NY35H] 10 June 1900, Gelt Wood [NY5258](F.H. Day). These records are supported and enhanced by voucher specimens of *N. crocata* held in Tullie House Museum: Tarn Lodge [NY55H] 1896 and 17 June 1916, Cowran [NY5156] 19 June 1916 (G.B. Routedge Collection); Orton [NY35H] 10 June 1900 and 6 June 1942 (F.H. Day Collection). The Cranefly Recording Scheme (NBN 2017) has a record by [W.E.]China for Windermere SD4198 in June 1947 (NBN 2017). Despite the presence of active dipterists such as Neville Birkett and John Parker in the county and determined effort on recording craneflies over the last 20 years, there were no further records of *N. crocata* in Cumbria for over 60 years, when a female was photographed by Glyn Freeman ovipositing in sand by the River Eden at Eden Lacy NY564390 on 5 June 2006. The photograph was sent to John Parker and myself for identification. Coincidentally, another female was found very close by at Force Mill, Eden Lacy NY562380 on 7 June 2016 by Mike Clemenston and brought to a meeting of Carlisle Natural History Society for identification.

Falk (1991) states that the species' habitat requirements are unclear, but that heathy woods and fen woodland seem to be favoured. He also reports that the larva has been found in damp soil. The historical Cumbrian data supports these observations with the locality 'Orton' generally used to refer to Orton Moss, which in the early 20th century was a lowland mire covered in heathy woodland. Similarly, Tarn Lodge, the former home of G.B. Routledge, stands adjacent to Hayton Moss.

It is remarkable then that all three recent Cumbrian records of *N. crocata* come independently from the same stretch of river and that these are all associated with sandy riverine sediment. A further correlation may or may not be significant; The River Eden has suffered two major flood events in the last 50 years, both of which resulted in serious flooding in Carlisle. These flood events occurred in January 2005 and December 2015 and resulted in large amounts of sand being dumped high on the riverbanks at various locations along the river. It could be that these floods caused a dramatic increase in available larval habitat resulting in an increase in the Eden Lacy population to observable levels. Another possibility is that the cranefly survives locally at a nearby location and has colonised the sand deposits on the river created by these flood events. There are however no obvious wet heathy woods or fens in the immediate vicinity.

Although these recent Cumbrian records are all associated with riverine sand deposits, the species does not show high fidelity to this habitat. A recent thread on the Dipterists Forum website (Dipterists Forum, 2017) reports several observations of *N. crocata* in sandy quarries in Lincolnshire Shropshire and Nottinghamshire. Falk (1991) judges the species to be threatened by habitat loss to agriculture and intensive forestry; scrub invasion on heaths; drainage of any damp areas. He suggests that conservation management might include maintaining a full range of conditions including a high, relatively stable water level in any marshy areas and preventing scrub invasion on heathland and in rides and clearings of woods. To these considerations might be added the maintenance of natural flow regimes on rivers together with conservation of riparian habitat and exposed riverine sediments.

Other craneflies that John Parker and I have reared from larvae collected in sand deposits on riverbanks and in-channel shoals include, *Nephrotoma analis, N. appendiculata, N. lunulicornis, N. submaculosa, Tipula couckei, T. lateralis, T. maxima* and *T. montium.* Some of these are considered specialists of exposed riverine sediments whilst other are more generalist species.

I thank Simon Jackson at Tullie House Museum, Carlisle for access to the collections there.

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#### Steven Hewitt

#### Ula mixta Starý, 1983, Pediciidae.

Despite several records, the status of *Ula mixta* in Britain must remain very uncertain due to the dearth of specimens. Because it closely resembles *U. mollissima* identification is not easy. Males and, with greater difficulty, females, can be confirmed by the structure of their genital apodemes. As Dick Vane-Wright states below, we need more material, more records with voucher specimens, if we are to understand the distribution and ecology of this species in Britain.

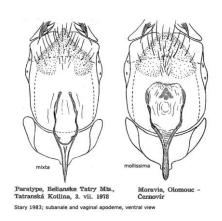
I'd be grateful to receive any *Ula* specimens, but it would be even better if you can use the 'Key to Pediciidae' and exclude the easier-to-identify *U. sylvatica*. **JK. Ed.** 

### *Ula mixta* Starý, 1983 in Britain. Dick Vane-Wright

There are few UK records for *U. mixta* so far. In addition to the Shropshire localities mapped by NBN, due to Peter Boardman, it has also been noted from Clumber Park, Nottinghamshire, where it was reared in numbers by Andy Godfrey (2010, unpublished) from an unidentified bracket fungus. Ken Merrifield's (2003) first British record was based on specimens caught by Ken & Rita at Cawdor Castle, Inverness-shire and determined by Alan Stubbs.

In Europe the species is distributed from Finland to Austria and as far east as Russia.





Left: Female *Ula mixta*: habitus; Middle: ventral view of part of the sclerotized structures of the *U. mixta* genitalia. Right: corresponding female genitalia of the closely related *U. mollissima*. (Starý 1983).

With both hairy eyes and hairy wing membranes, the genus *Ula* is unmistakeable. The medium-small species have a wing length 6–10 mm, and are on the wing in UK between May and November.

My identification of a single, yellowish female of *Ula* collected at Dyke's Wood and shown above, is tentative. Following Hutson & Vane-Wright (1969), two species of *Ula* were recognised from Britain: *Ula sylvatica* (Meigen, 1818), and *U. mollissima* Halliday, 1833. Since then Merrifield (2003) added a third species to the British list, *U. mixta* Starý, 1983. The October 2014 specimen is certainly not *U. sylvatica*, and does not look right for *U. mollissima* (in which the vaginal apodeme looks like a catapult!). However, although the critical characters of the female correspond to the published drawings for *mixta* tolerably well, they do not seem a perfect match. These are tricky things to illustrate however! More material is needed. This is the first time I have encountered what appears to be this species.

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#### **Dick Vane-Wright**

#### Some recent publications relating to craneflies in 2016-17

I. Sims and P. Chandler. March 2017. Diptera recorded from hypogean pitfall traps at Jealot's Hill, Berkshire. British Journal of Entomology and Natural History 30: Part 1, 42-45

The two buried pitfall traps were sited in a grassy field margin during the winter and spring of 2014 as part of an investigation of soil invertebrates. Larvae of four species of Nephrotoma and 4 species of Tipula were captured in the traps.

- 2. British Journal of Entomology and Natural History 30: Part 2 July 2017, 90-96. Peter Chandler writes about the Diptera of Windsor Forest and Great Park, including Metalimnobia quadrimaculata and Gnophomyia elsneri. R.J. Dickson records Geranomyia bezzi from Hornsea Island
- 3. Corrections and changes to the Diptera Checklist (36) Editor. Dipterists Digest 23, No. 2: 151 Symplecta scotica (Edwards 1938 – Erioptera) is raised to species rank. Ref. Stary and Brodo, 2009. Canadian Entomologist 130, 1-30.
- 4. Drake, C.M. 2016. The relative importance to Diptera of pasture and ditch margins on an English grazing marsh. Dipterists Digest 23, No. 1: 1-22.

A list of flies from Catcott N.R on the Somerset Levels. Includes records of 35 species of craneflies including: Phalacrocera replicata, Nigrotipula nigra, Tipula pierrei, Erioptera flavata, Erioptera squalida, Molophilus pleuralis and Pilaria scutellata,

- 5. Kramer, J. 2016. The rarer British species of the genus Tasiocera Skuse (Diptera, Limoniidae) in the Natural History Museum, London. Dipterists Digest 23, No. 2: 169-175.
- 6. Wolton, R.J., Chandler, P.J., Drake, C.M. & Stubbs, A.E. 2017. The relative importance of wet woodland and wet grassland for Diptera conservation: a case study from Devon, England. Dipterists Digest 24, No. 1: 79-94.

Samples were taken from Scadsbury Moor in Devon. 53 limoniid species and 20 tipulid species were recorded. Species included Gonomyia abscondita, Thaumastoptera calceata, Rhipidia uniseriata, Idioptera pulchella, Nephrotoma dorsalis and Tipula Iuridirostris. Ed.

#### **Next Copy Deadline**

Please send all copy for the Autumn issue of Cranefly News #34 to reach me by 20<sup>th</sup> July 2018. Thank you. John Kramer.

john.kramer@btinternet.com

14

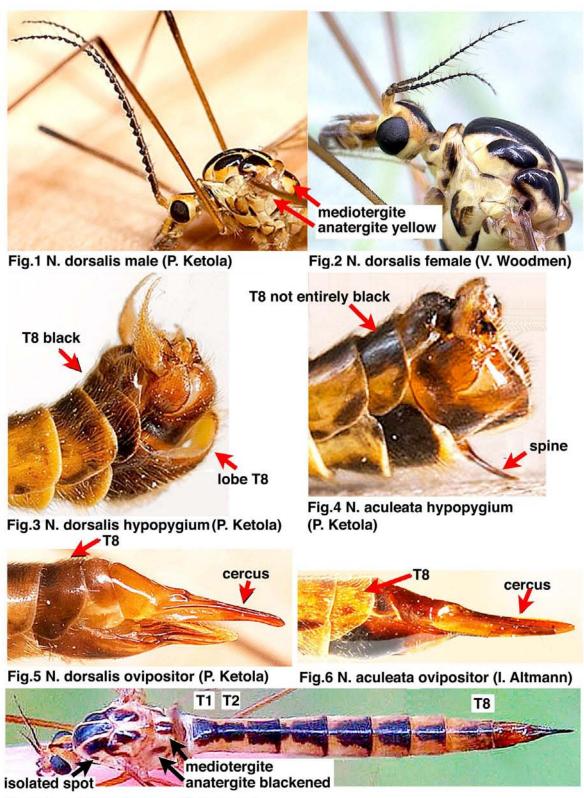


Fig.7 N. aculeata female (K. Peeters)

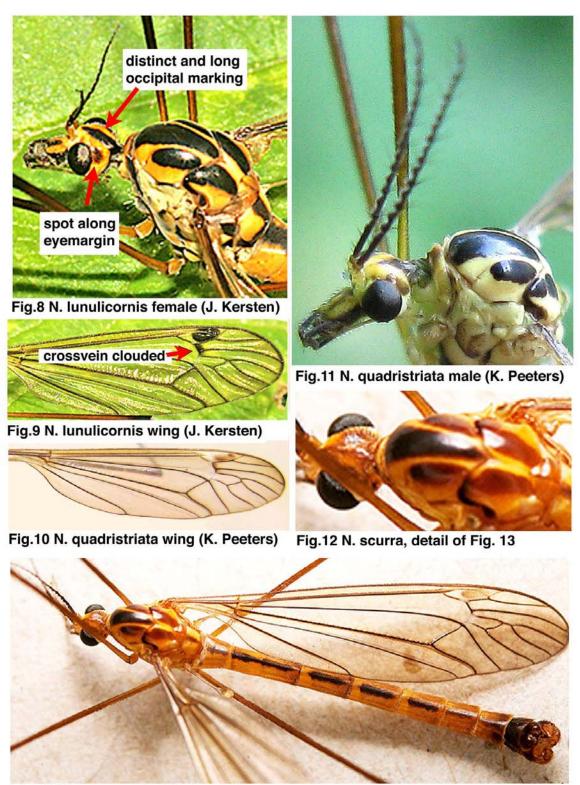


Fig.13 N. scurra male (K. Peeters)