Cranefly News

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

Newsletter No 32 **Spring 2017**

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Sub-editor: John Dobson


Dictenidia bimaculata J. Blimcow

Your Records

One purpose of the Cranefly Recording Scheme (CRS) is to collect accurate records of craneflies from all over the country and send them to the Biological Records Centre (BRC) at Wallingford, Oxfordshire. The CRS was formed by Alan Stubbs in 1973 and records have been collected and sent to the BRC since then. Many of these are historical, obtained prior to 1973 from county lists, museum specimen labels, field notebooks and other records.

Alan submitted the first Atlas to show the distribution of the British Tipulinae in 1984 and it was published by the BRC in 1992. Last year a total of 4,671 records were sent off, and in 2014 the total was 3,850. Thanks to all the members who sent those in. There are now over 110,000 unique national records for you and other researchers to use.

When a batch of records arrive at the BRC they are first logged and saved. The next stage is for them to be compiled and then, hopefully within 12 months, uploaded onto the BRC database. They are then, eventually, exported to the NBN Gateway database so that your records can be presented as a hectad dot map, and available for your research. It may take a number of years for your record to appear on the NBN Gateway

In order to view the species distribution maps on the NBN Gateway, simply log on to www.searchnbn.net and type in the scientific name of the species you want. To access the more detailed information, DF members need to sign up with the NBN.

Most records are sent to me by December of the relevant year and I send them to the BRC in the January of the year following. If any of you still have any un-sent cranefly records, it is never too late, and I would be very grateful to receive them.

John Kramer

The Revised Cranefly Keys

Since the last issue of Cranefly News a home has been found for the newly revised Cranefly Keys.

Pjotr Oosterbroek has offered to host them on the website Catalogue of Craneflies of the World (CCW). The keys will continue to be updated and revised versions will be uploaded a few times each year.

To download the keys go to http://ccw.naturalis.nl. Click on the heading Literature and then, in the Search Box for Author type Stubbs Kramer and click on Search Literature.

John Kramer

Martin Drake at work on a section of soft cliff near Axmouth, Devon, the habitat of many local craneflies. (*Photo R. Wolton*)

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Field Work Reports for 2016

From the Devon Dipterists Group:

Helius hispanicus is still alive and well and living in Devon.

The Devon dipterists have had some interesting field meetings, and on the soft cliffs near Axmouth, Devon on 18 June 2016 their visit coincided with the emergence of the very local and rarely recorded cranefly *Helius hispanicus*.

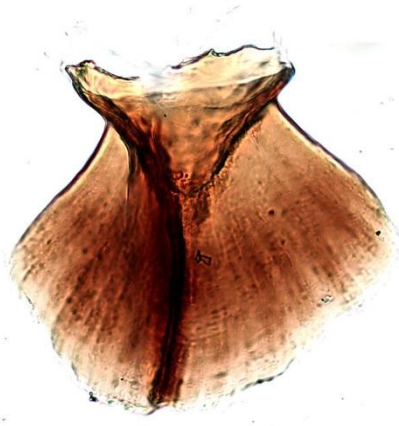
Helius hispanicus was first recorded at this site on 19 June 1989 by Alan Stubbs and again on the same area of Undercliff on 2 July 1998 by Stuart Ball.

The identification is unproblematic. Like all members of Helius it has the long rostrum, but it is the only British member of this genus with dark tips to the wings, as well as the distinctive styles.

The stretch of soft cliffs from Axmouth to Lyme Regis is an NNR and *Arctoconopa melampodia* is also common there. The figure of Martin Drake can just be seen on the accompanying photograph (page 1) sweeping the vegetation.

***Helius hispanicus* Terminal segments** (*Photo. J.K.*)

At the same field meeting, Martin Drake and Rob Wolton also reported *Idiocera sexguttata* and *Orimarga juvenilis* from the same stretch of coastline. Although recorded in Ireland *O. attenuata* is a species not yet on the British list, so it is worth checking the genitalia of likely suspects. The distinct fan-shaped genital apodeme shown here seems to be diagnostic of *juvenilis.*



Genital apodeme of *Orimarga juvenilis* (*Photos. JK ©NHMUK*)

John Kramer

Craneflies and other flies emerging from decaying ash wood.

In March this year I collected a few handfuls of decaying woody debris, and a couple of rotting blocks of wood each measuring about 20cm by 10cm, from the base of an ash tree on our farm (see photo.). This ash although not large must once have been hollow but has lost about half its trunk so the internal decay is now exposed from the base to above head height. The tree is barely alive, but struggles on. I put the rotten wood in a bucket with some fine mesh over the top and placed it is a shady spot in a polytunnel, keeping it damp with rainwater. I then waited to see what emerged.

The first fly to appear was a winter gnat (Trichoceridae), a male *Diazosma hirtipenne*. This is a rarely recorded species, and may not have been found in Devon before. So a promising start! Next to emerge was a female *Tipula lunata*, a common large cranefly: I found its puparium in among the debris of rotting wood. Over the next few weeks and to my delight, four *Dictenidia*

bimaculata, a species of comb-horn cranefly, appeared - the puparia of these rather spectacular insects were found poking out of the blocks of rotting wood. The final craneflies were two *Rhipidia uniseriata*, a scarce spotted-winged limoniid for which there are just one or two previous county records.

Rob Wolton's decaying ash tree (*Photo. R.W.*)

The rotting wood produced other flies too. These included four individuals of the empid *Hilara lurida*, the hybotid *Platypalpus parvicauda*, a couple of specimens of the small yellow acalypterate *Chyromya britannica* (Chyromyidae), and two species of fanniid – *Fannia gotlandica* which is a nationally scarce species known to be associated with rotting wood, and *F. umbrosa*. I had not previously recorded either the empid or *F. umbrosa* on the farm, nor indeed *D. hirtipenne* or *Rhipidia uniseriata*.

So, a good haul of flies, including some seldom encountered, for very little effort. A Malaise trap just 20m away and in place from April to November, caught just one of the above species – *Dictenidia bimaculata*!

The conservation value of rotting wood is of course well known, but the days of our ash trees appear numbered due to ash dieback disease: records from the decaying heartwood of this species may have particular value in the future.

My thanks to Julian Small for confirming the identity of the winter gnat.

Rob Wolton (Devon Group)

Cranefly report for Shropshire & elsewhere, 2016.

I would normally at this stage deliver an update in progress on work done solely in Shropshire but since I began working for the Natural England Field Unit (NEFU) in January I've had barely a few days recording in my home county. However sterling work has been done by Keith Fowler (KF) under the auspices of the Joy of Wildlife walks that Keith organises with a local group of extremely keen volunteers so I'm going to mix and match my own records from various sites in England with Keith's and a few others I received from Shropshire in a joint report.

April: KF kicked off the cranefly year with an early sighting of *Scleroprocta sororcula* from Shawbury Heath (Shropshire) in late April, which is certainly the earliest Shropshire record, if not a new UK early record (24/04/16).

May: My first interesting sightings of the year were from Wybunbury Moss NNR (Cheshire) in May and I noted *Triogma trisulcata* (new to Cheshire), *Prionocera pubescens*, and *Ormosia depilata*. KF recorded *Dactylolabis transversa* and *Dicranomyia sericata* from a limestone quarry around Wenlock Edge (Shropshire). I swept *Eloeophila verralli* from the bank of the River Wey at Charterhouse to Eashing SSSI (Surrey) and *Gonomyia tenella* from Syon Park SSSI (also Surrey), whilst I found *Phalacrocera replicata* from wet lowland heath at Moor Farm SSSI in Lincolnshire. I recorded *Lipsothrix nobilis,* and *L. errans* from the traditional site of Lydebrook Dingle SSSI (Shropshire) on 26/05/16 and found *Idioptera linnei* on Wem Moss NNR (Shropshire) on the last day of the month. Habitat here for the species seems to have increased due to bog restoration works.

June: KF recorded the heathland limoniid *Limonia dilutior* at Bromlow Callow (Shropshire) on the 06/06/16). I recorded the saltmarsh species *Dicranomyia sera* and *Molophilus pleuralis* from Warton Marsh within the Morecambe Bay SSSI (Lancashire). I took part in a Bioblitz for the RSPB / BBC Springwatch at Arne SSSI (Dorset) and recorded 21 cranefly species on the day, the pick being *Dolichopeza albipes, Gonomyia dentata, Helius pallirostris, Molophilus occultus*, and *Phylidorea squalens.* I returned to Lincolnshire and recorded *Gonomyia dentata* at the neighbouring site to Moor Farm, Kirkby Moor SSSI and back in Shropshire recorded *Idioptera linnei* and *Tricyphona schummeli* at Fenn's, Whixall & Bettisfield Mosses NNR.

July: On the 1st of the month I found *Nigrotipula nigra* at coastal grassland in Morecambe Bay SSSI (Cumbria). In the New Forest (Hampshire) on the 05/07/16 I noted *Gonomyia dentata* and *Erioptera nielseni* and the latter species again two days later at Woolmer Forest (Hampshire) at the edge of a bog. I found *Tipula helvola* at the same site but in drier heathland habitat. A few days later I swept *Idioptera pulchella* from boggy wet heath at Fairoaks Moss in Staffordshire on the 11/07/16. Visiting dipterist Bryan Formstone noted *Tipula pruinosa* at Sweeney Fen (Shropshire) during the middle of the month. Probably my highlight of the year was a visit to Hedgecourt SSSI in Surrey, which is a fen and reedbed where I found *Pilaria decolor, P. nigropunctata*, and *Tipula marginella,* three craneflies new to me in a day! The record of *Pilaria nigropunctata* is particularly significant as it is quite a distance from other sightings in the UK. KF had a very good find at Nantmawr Quarry in

Shropshire locating *Gonomyia conoviensis* on 27/07/16.

September: *Dicranomyia sera* was noted again in the Morecambe Bay SSSI but this time at saltmarsh close to the Roudsea Moss NNR in Cumbria. I visited several sites within the Dorset heathlands in the first and second weeks of the month and found *Molophilus occultus* widespread at valley mires with *Tipula melanoceros* from Winfrith Heath SSSI and Brenscombe Heath SSSI.

Thanks to Keith Fowler, Jim Cresswell, Nigel Jones, Bryan Formstone, Mags Cousins, Karen Boardman, Mariel Lubman, and John Bingham for supplying Shropshire records this year. Thanks to Georgina Terry, Pin Dhillon-Downey, Liz Biron, Julie Russ, Becky Cartwright, Becky Butters, Stephanie Rose, Rupert Randall, Mags Cousins, and Delphine Suty for arranging access and collecting permissions for the SSSI's visited.

Pete Boardman

Craneflies in Northamptonshire in 2016

Once again, the by-catch from the two MV moth traps run at Pitsford Nature Reserve included a number of craneflies (See Cranefly News 29, Spring 2015). Note that only on some days were diptera in the traps taken so this is not a complete list of the whole diptera bycatch. The following table shows the results.

Field meetings of the Northants and Peterborough Diptera Group provided a number of cranefly records.

Nigrotipula nigra was found at two other sites after last year's discovery. Both sites are adjacent to the original site and are also being managed by the Wildlife Trust. In total, four nature reserves are being amalgamated to form a new reserve, The Nene Wetlands, which should be fully open by Spring 2017.

There is still much of Northamptonshire with few or no records so there will be plenty of opportunity to expand our knowledge of the county's cranefly fauna over the next few years.

John Showers

Differentiating between *Tipula* (*Savtshenkia*) *subnodicornis* and *Euphylidorea meigenii* in the field.

Two discrete colonies of *Tipula (Savtshenkia) subnodicornis* have been found by the author within the Studland and Godlingston Heaths National Nature Reserve during spring 2014, and represent the first county records for Dorset.

The stronghold for this species lies in the uplands of western and northern Britain, and the nearest such record is from Pizwell on Dartmoor in 2002. However, in southern lowland Britain this species is restricted to isolated valley mires and there appear to be few recent records.

continued

Table showing Craneflies recorded from MV traps at Pitsford NR in 2016

Species Tipulidae	**MV1** Water's Edge	**MV2** Woodland Clearing	**Species** Pediciidae & Limoniidae	**MV1** Water's Edge	**MV2** Woodland Clearing
Nephrotoma appendiculata	1		*Tricyphona immaculata*		2
Nephrotoma cornicina		1	*Dicranomyia didyma*	1	
Nephrotoma flavescens	3		*Dicranomyia modesta*	1	
Nephrotoma quadrifaria		1	*Erioptera nielseni*		1
Tipula lateralis	4	1	*Molophilus* sp.		1
Tipula lunata		2	*Ormosia* sp.		1
Tipula obsoleta	1	1	*Ormosia nodulosa*		1
Tipula oleracea		1	*Phylidorea ferruginea*	1	
Tipula paludosa	3		*Rhipidia maculata*		1
Tipula pierrei	1		*Symplecta pilipes*	8	
Tipula subcunctans		1			
Tipula varipennis	1				

Ormosia bicornis and *Tipula staegeri* have been noted separately from sampling in the wider countryside.

Three other scarcer species were also found. In July another *Erioptera verralli* was found by Brian Harding, this time at Yardley Chase. A male *Gnophomyia viridipennis* was swept by me from vegetation growing next to a pile of felled poplar trees in a poplar plantation in Sulby, NW Northants. At Yardley Chase Jeff Blimcow found *Dictenidia bimaculata* at two locations, one in the MoD section, and the other in the deer park (photo in newsletter header).

It has been known from the New Forest mires since 1894 when discovered here by Col. Yerbury, but the most recent records date from the 1960's and early 1970's.

There are also contemporaneous records from the Surrey Heaths, including Thursley Common and Chobham Common Sites of Special Scientific Interest (SSSIs). The most recent records are from an outlying valley mire within Snelsmore Common SSSI in Berkshire during the 1970's and 1980's.

The flight period in Dorset commenced in mid-March 2014 and the Studland colony has been non-destructively surveyed using transects to gain more insight on its phenology and distribution on lowland mire.

Unfortunately the flight period of *T. subnodicornis* was found to overlap with the emergence of the equally abundant *Euphylidorea meigenii* and initially this prevented purely observation-based counts. Crudely, in the field both species are greyish and have brown proximal ends their wings.

Whilst these species are clearly identifiable in the net/hand, with experience, it is also easy to split these species in the field based of simple physical and behavioural characteristics. This is shown in the following table.

Table showing field characters differentiating *Tipula subnodicornis* and *Euphylidorea meigenii*.

Characteristic	*T. subnodicornis*	*E. meigenii*
Flight Behaviour	Fluttering, landing anywhere (even on water); tensioned on legs with wings set at 45 degrees to abdomen.	Flight more purposeful, usually landing into taller vegetation; the wings folded on settling to overlap abdomen.
Colour in flight	Silvery grey	Darker grey
Close observation	Stigma not obvious	Dark stigma on overlapping wings

E. meigenii is widespread on wet heath and mire vegetation within the Poole Basin, often occurring even on very small stands. It also strays onto drier surrounding heathland vegetation.

By contrast, *T. subnodicornis* appears to be restricted to the larger valley mire systems and would appear to be absent from the smaller preserves, such as those occurring within the Borough of Poole which were extensively surveyed during spring 2011. At Studland, the colony appears to occur strictly within the most open parts of the mire.

Ashley Leftwich

Molophilus ater on Orkney

A spring stroll with my net in rough ground on the edge of woodland at Hestily, South Ronaldsay, Orkney (ND451866) on 02/05/2016 turned up hundreds of small, black Limoniidae mating on grass and heather. They appeared to be flightless, approximately 5mm long, black with short hairy wings and pale halteres. This seemed to be a mass emergence as when I returned two days later not one was to be found. I collected a specimen and keyed it out to Molophilus ater (Meigen, 1804).

Molophilus ater (Photo. Lee Johnson)

The record was confirmed by John Kramer who notes that they are common in the north of Scotland but previously unrecorded in Orkney and that this species probably plays an important role in moorland ecosystems. **Lee Johnson**

Craneflies in Lancashire and Cheshire in 2016

This is mainly an account of highlights of my own collecting and observations: not all specimens have yet been conclusively identified, and there may be more records to come in from others. Altogether in 2016, I collected 573 records covering 114 species, compared with figures of 457 and 91 respectively last year.

This includes Ptychopteridae and Trichoceridae as well as true craneflies. This may represent a real difference in abundance as my effort has remained fairly constant. I have revisited a small number of "core" sites such as Cotterill Clough and the Delamere Forest where I hope to build up as complete an inventory of species as I can. I have also visited a range of other sites once or twice to expand my coverage of habitats and locations across the area. Kidd and Brindle's 1959 list for these taxa over the whole of Lancashire and Cheshire included just 218 species so it seems a very good outcome to find over half this number in a single season.

Beginning with the Tipulidae, a notable observation appeared on the Facebook group page of the Lancashire and Cheshire Entomological Society.

This was a smart-phone video by Emily Traynor of a female *Tanyptera atrata* wandering around and ovipositing on a dead birch stump on 12 May at Hatchmere (SJ5571), a previous site for the species: the video can still be viewed on Facebook.

A female *Nephrotoma crocata* turned up on the lowland bog site of Cadishead Moss (SJ6995) on 18 July. This is now the 4th record of this species from the Manchester peatlands in the last few years, suggesting that this species is well established there. Another recurring phenomenon were the finds of *Nephrotoma dorsalis* in odd places within a short space of time: a male at Birchwood rail station (SJ6590) on 16th July, and females in our Warrington garden (SJ6393) on 21st July and at Lunt Meadows (SD3402) near Liverpool on 23rd July.

This species is normally associated with sandy rivers, so it seems that a dispersal tendency may be in play. I have previously observed *N. dorsalis* in July 2013 (7 records) and to a lesser extent in July 2014 (1 record).

Amongst 24 *Tipula* species on this year's list, there is a male *T. yerburyi* in the Delamere Forest (SJ5372), a species previously recorded in Cheshire only in 1985 and by Martin Drake in 2003.

At Holcroft Moss (SJ6893), an uncut lowland bog which is another of my "core" sites, it was pleasing to find two specimens of *T. subnodicornis* on 18 April.

continued

(***Craneflies in Lancashire and Cheshire in 2016 –*** *Continued***)**

This is a recognised acid mire species particularly associated with the uplands.

I found it at the same site in 2013, but not anywhere else on the Manchester Mosses. Another bog species *T. melanoceros* was abundant at Holcroft Moss on the 13 September, as it was last autumn, but is also seemingly absent from the other Manchester Mosses from which peat has been extensively extracted in this past. I suspect that more data is needed before these observations can be regarded as ecologically significant.

Tipula melanoceros: male terminalia (Photo. J.K.)

The best moment however was my first sighting of an adult *T. maxima* at Bold Moss (SJ5493) on 2 August. This is a heap of spoil dumped on a bog and given over to nature since the closure of Bold Colliery near St Helens in 1986. There is extensive birch woodland and patches of heath, but also areas of nearly bare shaley material vegetated with sparse mosses and lichens. Rather surprisingly a reed-bed has been created at the top, while there are relicts of the original wetland on one edge of the heap. The male *T. maxima* was about half-way between the two and sadly would not pose for a photo.

Alan Stubbs described the distinctive Limoniid *Achyrolimonia decemmaculata*, with spotted wings and a silver frons, as "widespread but generally scarce except some favoured districts". It was not on the 1959 list for Lancashire and Cheshire, so I felt that finding it at 4 separate locations in the Delamere Forest in 2014 was noteworthy. This year, it has appeared in our own garden on 27 May and at Bold Moss on 2 August.

A. decemmaculata is a dead-wood species and Pete Boardman states in his new Shropshire Craneflies that "it can occur in even the most unlikely occasions where only a little dead wood exists". It certainly seems that this species has increased in numbers and expanded its range locally in the 21st century.

Tipula maxima (Photo. Anon.)

A good find in the Delamere Forest (SJ5271) was a male *Dicranomyia lucida* on 6 July, swept from over a small stream. This too was not on the 1959 list.

At Cotterill Clough (SJ8083) I added to my personal list two more of the scarce species recorded by Harry Britten in the 1940s (see article in the previous edition of Cranefly News #31): two males and three females of *Molophilus niger* on 12 May and a male of *Paradelphomyia nielseni* on 7 September.

Moreover on the first of these dates I found two specimens of *Scleroprocta pentagonalis* to add to the site list. The wings of these specimens had become rather crumpled in the pooter (over-filled perhaps), so I detached one and flattened it out in a drop of water on a slide. John Kramer kindly confirmed my conclusion from the resulting photo.

I am now assembling a master database of the craneflies of Cheshire (VC58) from a download of the NBN data, the Cheshire LRC, and my own transcription of the Harry Britten record cards from Manchester Museum. This will be used to generate anew county checklist, which it will be interesting to compare with Pete Boardman's list for Shropshire. He has in fact himself increased the Cheshire list by finding *Triogma trisulcata* on 9 May this year at Wybunbury Moss (SJ6950), one of two national nature reserves in the county.

References

Boardman, P. (2016). *Shropshire Craneflies*. Field Studies Council, Telford.

Kidd. L. N. & Brindle, A. (1959). *The Diptera of Lancashire and Cheshire*. Lancashire and Cheshire Fauna Committee.

Phil Brighton

Species New to Northamptonshire

Two new species have been added to the Northamptonshire list: *Ormosia bicornis* and *Tipula staegeri.*

Ormosia bicornis in Northamptonshire

On 15th September 2016 I was sweeping under sallows alongside a damp, but dried out pond in a former sand pit near Yardley Hastings, Northants. (grid ref. SP8758). The bank was covered in mosses. I took a small cranefly which, when I arrived home, I keyed out as a male *Ormosia bicornis.* Although I could only see part of the genitalia, they appeared to confirm my initial determination.

On checking its distribution and status, I had some doubts and contacted John Kramer for a second opinion. I sent him some rather poor photos and he said that it was worth examining the specimen on the basis of these. I subsequently met John and passed on the specimen. He dissected the genitalia and confirmed the identification as correct. He also photographed it at the Natural History Museum in London.

According to Falk 1991, *O. bicornis* is Vulnerable (RDB2) and had only been recorded from three post 1960 sites prior to the review. It had been recorded in Huntingdonshire and Oxfordshire in the past and this site is between these two counties. There are 27 observations of the species in the 2007 Cranefly Recording Scheme dataset on the NBN Gateway.

Its ecology was described as life history unknown, although the larvae possibly develop in soil or leaf litter in calcareous woodland. The site where this cranefly was found is an abandoned sand pit surrounded by fields which were sown with a wild flower mix a few years ago. The exact location was in the bottom of the pit with a high bank covered in scrub behind the dried out pond. The geology of the site is Quaternary Milton Sand overlying the Jurassic Blisworth Limestone Formation. The nearest wood is a planted ancient woodland site (PAWS) approximately 500m from the sand pit in a mostly intensively arable landscape.

I would like to thank the Compton Estate for permission to access the site, John Kramer for his assistance with identification and for photographing the specimen which has been placed in the collection at the Natural History Museum, London.

Tipula staegeri in Northamptonshire

On 5th October 2016 I took a male *Tipula staegeri* (subgenus *Savtshenkia*) at Sulby Gardens, Sulby, Northamptonshire (grid ref. SP6681). This is the first record for the county, although it is widespread to the North and West of this location. The area I was sweeping was alongside a small stream with grassy and mossy banks in woodland in a private garden that has been managed for wildlife for many years.

My thanks go to Alison Lowe, the owner of Sulby Gardens, for permission to sample there.

Reference

Falk, S., (1991) *A Review of the Scarce and Threatened Flies of Great Britain* (Part 1). JNCC, Peterborough.

John Showers

The Naming of Things

There are companies that earn significant sums of money by 're-branding', but like any change, you have to be sure that you get it right. One case in point is our Dipterists Forum, a venerable name which is known and respected throughout the dipterists' world. But when I speak to non-dipterist friends I say I'm going to a fly club meeting, or sometimes, to differentiate, I describe it as the National Fly Club. They know what I mean.

The naming of flies, and specifically, craneflies, is another example. I must admit that in my own head, when I'm alone in the countryside, I call specimens of *Lipsothrix* 'lemon-yellows'. And I call male *Tipula fascipennis* the 'antlered Tipula'. However, it would cause problems if I used these names anywhere outside my own head. Perhaps, were I part of the twitter generation, I would constantly tweet the contents of my mind to the world instead of doing other things.

In the Autumn 2016 Bulletin, Judy Webb confessed to calling *Triogma trisulcata* (Cylindrotomidae) the 'Dimple-cheeked Damsel'. Well, that is all very well for the females, but what about the males? My private name for them is 'warty-faced bog fly', or 'warty-face' for short - not at all feminine! And what about our other nations? What would they want to call it in Scotland or Wales? Well of course it doesn't matter, so long as we all use the same agreed name - *Triogma*, when we talk to each other.

Competition !

For those who like naming things what English name would you use for the large cranefly *Pedicia rivosa*?

John Kramer

Book Review

Shropshire Craneflies by Peter Boardman. Field Studies Council 2016. ISBN 978 1 90881 924 6

Order from: www.field-studies-council.org/publications/pubs/shropshire-craneflies.aspx

Judging by the large amount of positive feedback I have had, this is a much-needed and very useful book.

It follows on from Pete's first Shropshire atlas, published in 2007. Since then, Pete has done a great deal of work and, in addition to the dot-maps, now updated, and with 21 additional species, it contains much helpful information to aid identification.

It is very well illustrated, with very many photos of living flies and their diagnostic parts, all of which will greatly reduce the uncertainty often generated by identification using text keys alone. The Shropshire environment is also well described with a section on land form and geology. Flight period and habitat notes are provided for each species, as well as many habitat pictures.

Dichotomous keys are used to take us to family or subfamily but the structure of the keys used to identify species is synoptic.

continued

A list of diagnostic characters is presented for a group, and this is worked through for each specimen. Each species has a unique set of characters from the list which permits identification. Look-alike species are also named so that a check can be made, but the point is made in the Introduction, that there will be times when the National keys will need to be consulted.

Shropshire has a diverse landscape which includes some excellent bogs and also upland sites. 245 taxa are covered, comprising 8 Trichoceridae (10 Nationally), 7 Ptychopteridae (7 Nationally) and 230 tipuloid craneflies (332 Nationally). So about two thirds of tipuloid species on the national checklist are covered, and most of these are the ones that will be met with in one's own county.

This is an indispensable book for anyone studying this group and it will be especially valuable to beginners.

John Kramer

A brachypterous population of *Dicranomyia sera* from Dornoch, Sutherland

Several examples of this cranefly were collected by David Horsfield, sweeping on saltmarsh on each side of the Dornoch Firth, at Dornoch Point (NH80-87-) and Morrich More (NH86-83-) in June 2008. *Dicranomyia sera* specimens usually have readily visible characteristic venation that places it in the right group but examples occur in which the wing size is reduced and the veins abbreviated (Photo). This can mean that identification attempted using wing characters alone is difficult. In these Scottish specimens the discal cell is oblique, diamond-shaped, and the cross-vein m-cu well before the discal cell. In one specimen the discal cell is absent. The reduced wing size also makes it very difficult to see the position of Sc2 and the apex of R in relation to each other or the costa. However the males of *D. sera* have distinctive dististyles and the females a black spot at the base of the ovipositor.

Wing length and width plus the length of thorax and abdomen were measured in the Dornoch samples and compared with specimens from elsewhere in the British Isles (Hunterian Museum & NHM, London). Although males and females appeared to exhibit the same tendencies only males are discussed here as the available specimens included too few females.

Specimens from Kent and Hampshire show wing lengths greater than the body length at a ratio of 1.29:1.00 (6.1: 4.7mm); sample size 12. Those from Dornoch have a ratio of 0.93:1.00 (3.8: 4.1mm); sample size of 9. It can be seen the latter have wings shorter than their bodies and there is an overall reduction in body size of about 13%. Specimens from Dornoch have mean wing length and width measurements of 3.8 and 0.6 mm; those from England 6.1 and 1.2 mm. Thus the wing dimensions of the Dornoch sample is disproportionately smaller in that the length is reduced by 38% but the width by 50% in comparison with examples from the south of England.

It would seem these reduced or brachypterous wings would limit flight capabilities. A comparable situation can be found in *Dicranota robusta*, an inhabitant of exposed upland streams, which has reduced wings and are reluctant flyers, usually restricted to skittering across the ground surface when disturbed (Hancock, 1990). The English populations of *D. sera* are assumed to be capable of sustained flight although we know of no direct observations on their flight behavior.

A female *D. sera* from Dornoch 2008, with reduced wings and characteristic black spot at base of ovipositor. (Photo. D. H.)

There are many other cranefly species living in exposed situations that have reduced wings or are fully brachypterous, including some montane *Tipula*. There will be a selective advantage in being flightless when occupying very exposed coastal habitats or remote islands. Freeman (1962) in identifying a brachypterous species of Symplecta from Gough Island in the South Atlantic referred back to the reduced wings that can occur with *S. stictica* (Meigen) in Britain on exposed saltmarshes. Stubbs (2003) provides specific detail - those with stunted wings are found in lower and middle saltmarsh compared with normal fully developed individuals in higher zones. Our conclusion is that the *D. sera* Dornoch populations exhibit a similar response to exposure in this same habitat.

D. sera is regarded as a scarce upper saltmarsh species mostly associated with *Juncus gerardii*; ecological data are given by Alan Stubbs (2003). It seems to have been seldom collected in Scotland with records from near Inverness, Fort William and the Solway coast (dots on the NBN Gateway map for the species) and Culbin Sands (Stubbs, 2014). An older Scottish record from St Kilda is given by Edwards and Collin (1932) and repeated by Waterston (1981) and Skidmore (2008). No matching Scottish specimens have been found in either NMS or the Hunterian Museum, University of Glasgow. Specimens from Dornoch collected in 2008 have been deposited in these two institutions.

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