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REVIEW



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ORTHOPTEROIDS IN HUNTINGDONSHIRE

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Introduction

This article reviews the status past and present of three groups of insects: Orthoptera (bush-crickets, crickets, ground-hoppers and grasshoppers); Dictyoptera (cockroaches) and Dermaptera (earwigs) in vice county 31 - 'Old' Huntingdonshire. Collectively these orders along with the Phasmida (stick insects) are known as the Orthopteroids. No stick insects have been recorded in the wild in the county.

The standard reference text for this group of animals is Marshall & Haes (1988). Ragge (1965) while dated today is also still an excellent source of information with Brown (1983) and Mahon (1988) offering cheap useful introductions to the orthoptera. Bellman (1985) is a photographic field guide to the grasshoppers and crickets of Northern Europe and Sterry (1990) provides a good introduction to the identification of British grasshoppers and Sterry (1991) covers the British bush-crickets. Grasshoppers, crickets and bush-crickets have very distinctive songs produced by the stridulations of their wings or thoraxes which are a very useful guide to species identification. A tape of these songs has been produced (Ragge 1988) and a new book and compact disc are in preparation (Ragge & Reynolds, in prep.)

1997 saw the publication of the new 'Atlas of grasshoppers, crickets and allied insects in Britain and Ireland' (Haes & Harding 1997). This book updates the distribution of orthopteroids in the UK as published by Skelton (1974) and contained within Marshall & Haes (1988). The new Atlas clearly highlights the lack of records from Huntingdonshire for a number of common species such as the Field Grasshopper (*Chorthippus brunneus*) and the Oak Bush-cricket (*Meconema thalassinum*). This paucity of records from the county (and the adjacent counties of 'Old' Cambridgeshire VC29 and Northamptonshire VC32) led to a request for additional records to fill these gaps from the national Orthoptera Recording Scheme organiser (Widgery 1996b). At this point I volunteered to act as county recorder for those three vice counties, collecting new records, encouraging others to submit records and organising training courses on the identification of orthopteroids. A number of new and interesting records have subsequently been made but unfortunately they were too late to meet the copy deadlines for the new Atlas. This paper therefore updates the new atlas with respect to species in VC31.

The paucity of records in the county along with Cambridgeshire and Northamptonshire is curious considering the high numbers of potential recorders living in the three counties. Many other counties have made considerable progress and their local Atlases have been published (e.g. Rands, 1977: Bedfordshire, updated annually e.g. Sharpe 1995; Davies 1987: Devon; Paul 1989: Berkshire, Buckinghamshire and Oxfordshire; Richmond & Irwin 1991: Norfolk and most recently Wake 1997: Essex). It is proposed that a provisional Atlas will be published for VC29 within the next 12 months (Colston, in prep).

Historical data for Huntingdonshire

The only published review I can find of orthopteroids in VC31 is from the Victoria County History (Omer-Cooper 1926), and this amounts to less than two dozen lines! In effect the summary detailed the efforts of 5 days collecting

in 1924. 11 species were described as present: Dark Bush-cricket (*Pholidoptera griseoptera*), Speckled Bush-cricket (*Leptophyes punctatissima*), Slender Ground-hopper (*Tetrix subulata*), Common Ground-hopper (*Tetrix undulata*), Common Green Grasshopper (*Omocestus viridulus*), Field Grasshopper (*Chorthippus brunneus*), Meadow Grasshopper (*Chorthippus parallelus*), Lesser Marsh Grasshopper (*Chorthippus albomarginatus*), Mottled Grasshopper (*Myrmeleotetix maculatus*), Lesser Earwig (*Labia minor*) and Common Earwig (*Forficula auricularia*). Surprisingly no mention is made of Large Marsh Grasshopper (*Stethophyma grossum*) which was well known from Whittlesey Mere prior to its drainage.

The only other source of information on a countywide basis of orthopteroids is the Biological Records Centre database at Monks Wood. Up to the publication of the new national Atlas the VC31 part of the database contained 228 records covering 19 species.

Pre-1980 records amounted 89 entries made by 16 recorders with M.J.L. Skelton of Monks Wood contributing 41% of these.

The post 1980 records (up to the publication of the new national Atlas) total 139 entries made by 11 recorders with P. Kirby contributing 49% and J. Bratton 24% of the records respectively.

Table 1 – 10km records of orthopteroids in Huntingdonshire

10 km squares (all TL)	09	19	29	39	08	18	28	38	07	17	27	37	06	16	26	36	15	25
Oak Bush-cricket	1	1				1	0		0	1	1				1	1		
Great Green Bush-cricket		1					0				1							
Dark Bush-cricket		1				1	1	0	0	1	1	0	0	1	1	1		1
Roesel's Bush-cricket																		1
Short-winged Cone-head						1	1											
Speckled Bush-cricket	1	1				1	1				1	0		1	1	1		
House-cricket							0	0		0	0	0						
Slender Ground-hopper	1	1	0			1	1	0			1	1		1		1		
Common Ground-hopper		1				1	1				1			1		1		
Large Marsh Grasshopper			0															
Common Green Grasshopper						0	0		0	1	1			1				
Field Grasshopper		1					0	0			1	1			1	1		1
Meadow Grasshopper	1	1					0	0	0		1			1	1	1		1
Lesser Marsh Grasshopper	0	1	1			1	0	1	1	1	1	1		1	1	1		1
Mottled Grasshopper							0											
Common Cockroach							0				0							
German Cockroach											0							
Lesser Earwig		1																
Common Earwig	1	1	1			1	1	1		1	1			1	1	1		
Lesne's Earwig						1								1				

0 – Pre 1980 records

1 – Post 1980 Records

Following the publication of the new national Atlas and up to the end of 1997 a further 46 records have been collected by 4 recorders. Ten new 10km square records have been added along with a new county record for Roesel's bush-cricket (*Metrioptera roeselii*).

The Systematic List

The systematic list which follows details the past and present status of species in the county. In addition to the text, the tetrad maps show the post 1980 distribution of species. Table 1 summarises the 10km records for Huntingdonshire - pre 1980 and post 1980. Species recorded prior to 1980 are not included on the maps on account of the major land-use changes that have occurred in the county and the known affect these have had on all types of wildlife (see Colston, 1997, for example). The conservation status of each species follows Haes and Harding (1997) after Shirt (1987) and Ball (1986 & 1994) for national designations and Colston et al (1997) for county ones, (CRDB).

Oak Bush-cricket (*Meconema thalassinum*) Conservation Status: no threat

Post 1980 10km squares in VC31: 7

10km squares where recorded prior to 1980: 2

A petite light green insect with a yellow dorsal stripe - up to 17mm. Nationally the oak bush-cricket is regarded as a common species (Haes and Harding 1997); however as the species does not stridulate it can often be difficult to locate and therefore record. The species is attracted to light and therefore often comes into people's home at night and is caught in moth traps. The species is clearly under-recorded in the county but is likely to occur throughout.

Great Green Bush-cricket (*Tettigonia viridissima*) Conservation Status:

Nationally local & CRDB

Post 1980 10km squares in VC31: 2

10km squares where recorded prior to 1980: 1

This large bush-cricket (up to 54mm) was previously more common than today. Worthington (1938) describes the it as formerly abundant in VC29. Today the species flourishes on the embankments of the main line railway near Abbots Ripton. It was also recorded from a railway in Peterborough in 1990. Previously the species was recorded from Woodwalton Fen where it was last seen in 1961.

The Great Green Bush-cricket has a loud and distinctive song and it is unlikely that there are many (if any) undiscovered colonies in the county. The railway line near Abbots Ripton is a Site of Special Scientific Interest.

Dark Bush-cricket (*Pholidoptera griseoptera*) Conservation Status: no threat

Post 1980 10km squares in VC31:10

10km squares where recorded prior to 1980: 3

This species is a stout animal reaching a size of up to 20mm. The Dark Bush-cricket is common in the south of Britain and in Huntingdonshire it is reaching the edge of its northern limits. The species is common in hedges and patches of scrub and will probably be found throughout the county once further field work has been carried out.

Recent studies from Norfolk (Richmond, 1994) have shown that the species is only found in the 'Ancient Countryside' (see Rackham 1986) containing habitats such as old hedges and commons and is absent from the 'Planned Countryside'

(i.e. the fens and intensively cultivated areas). In Huntingdonshire it is found on the clays and in the fens i.e. in the 'Planned Countryside'.

Roesel's Bush-cricket (*Metrioptera roeselii*) Conservation Status: Nb & CRDB
Post 1980 10km squares in VC31: 1

10km squares where recorded prior to 1980: 0

Roesel's Bush-cricket is a very attractive insect, brown in colour with a distinctive yellow arc along with three yellow spots on the side of the pronotum / abdomen. The species was formerly restricted to the Essex coast and the Thames estuary (Ragge 1965). However it is currently undergoing a range expansion in England spreading west and north (see Haes 1995 for further details). There is only one record for Huntingdonshire, from 1996. It was recorded near Waresley by Julianne Evans.

The species is best located by listening for its song. It has a very distinctive call which has been described as the sound emitted from under a high tension electricity pylon in the rain! However weather conditions need to be still and hot to hear the song. Unfortunately whenever I visited south Huntingdonshire in the late summer of 1997 to look for the species, wet and windy conditions hampered any searches. It will certainly be worth looking for this species in the county from September onwards to see if it is spreading further still.

Short-winged Cone-head (*Conocephalus dorsalis*) Conservation Status: Nationally local & CRDB

Post 1980 10km squares in VC31:2

10km squares where recorded prior to 1980: 0

The Short-winged Cone-head is a small green bush-cricket (11-18mm) with a brown dorsal stripe which inhabits marshes and fens. In Huntingdonshire it has been recorded from Woodwalton Fen where it has been known for many years, and was still present in September 1997. It also occurs in Monks Wood, mainly in East Field but also in Stocking Close Ride. It would be worth investigating whether the species is found in other parts of the reserve. It can be a difficult species to survey. Its song is very high pitched and most people cannot hear it. However if a bat detector is used its presence can be quickly established.

This is another species undergoing a range expansion, sometimes over quite extensive distances. I have seen the species on the Isles of Scilly where it arrived in the early 1990s (Haes 1993). Indeed it does not seem to require extensive areas of marsh in which to survive; the colony on St. Agnes in the Isles of Scilly is restricted to a marsh of less than one acre. It is therefore worth surveying suitable habitat in Huntingdonshire to see if it is colonising new areas here as well.

Speckled Bush-cricket (*Leptophyes punctatissima*) Conservation Status: no threat

Post 1980 10km squares in VC31: 7

10km squares where recorded prior to 1980: 2

The Speckled Bush-cricket is small (9-18mm) dirty green animal with a distinctly arched back. In Huntingdonshire the species is reaching the northern limits of its UK distribution. It is a common species which should be found throughout the county given sufficient surveying.

The Speckled Bush-cricket has a simple and almost inaudible song, but it can

be located by beating bushes and it is also attracted to lights in houses and to moth traps.

House-cricket (*Acheta domestica*) Conservation Status: not native

Post 1980 10km squares in VC31: 0

10km squares where recorded prior to 1980: 5

The House-cricket is a small brown creature (up to 20mm in size). It is not a native of the U.K. and is thought to have been brought to the country from the Middle East by the knights returning from the Crusades. House-crickets can only survive in artificially heated conditions but can temporarily flourish in the wild during hot summers. In the past the species was common living in houses, bakeries and hospitals etc. However with improved hygiene procedures and intensive pest control the species is in rapid decline. The House-cricket was last recorded in Huntingdonshire in 1973 in Alconbury and St. Ives. The species is now sold widely in pet shops as food for various carnivorous pets and occasionally it escapes.

Slender Ground-hopper (*Tetrix subulata*) Conservation Status: no threat

Post 1980 10km squares in VC31: 8

10km squares where recorded prior to 1980: 2

The Slender Ground-hopper is a small insect (up to 14mm) which inhabits areas of bare mud or other unshaded damp places. Care needs to be taken so that immature Slender Ground-hoppers (which still have short undeveloped wings) are not misidentified as Common Ground-hoppers. The species is widely distributed in the county but is still under-recorded. In VC31 it is reaching the northern limits of its UK distribution.

Common Ground-hopper (*Tetrix undulata*) Conservation Status: no threat

Post 1980 10km squares in VC31: 6

10km squares where recorded prior to 1980: 0

The Common Ground-hopper is generally smaller than the Slender Ground-hopper reaching only 11mm. It is characterised by a pronounced dorsal keel on the pronotum (even in immature specimens). It requires open habitats containing mosses but lives in both wet and dry conditions. It has a patchy distribution in the county resulting from under-recording.

Large Marsh Grasshopper (*Stethophyma grossum*) Conservation Status: RDB2 (vulnerable)

Post 1980 10km squares in VC31: 0

10km squares where recorded prior to 1980: 1

The Large Marsh Grasshopper is the largest species of grasshopper in Britain reaching 36mm. It is a wetland species which formerly inhabited the great fen basin. It is unfortunately now extinct in Huntingdonshire and East Anglia and is found today only on the Dorset heaths and in the New Forest.

The stronghold of this species in Huntingdonshire was Whittlesey Mere prior to its drainage and the last county record was from there in the 1860s (Worthington 1938).

Common Green Grasshopper (*Omocestus viridulus*) Conservation Status: CRDB

Post 1980 10km squares in VC31: 3

10km squares where recorded prior to 1980: 3

The Common Green Grasshopper grows up to 22mm; it has a variety of colour forms but is most commonly green. It has a very characteristic prolonged song. It is a species of unimproved wet meadows and wet woodland rides. It is the most widely distributed species of grasshopper in the UK.

Common Green Grasshoppers have formerly been described as common. However there are only 4 post 1980 records for the county. The species may have undergone or be undergoing a major decline resulting from the loss of wet meadows. As a result it is highlighted in the Cambridgeshire Red Data Book (Colston et al. 1997) and efforts should be made to determine its current distribution in the county and then monitor its future progress.

Field Grasshopper (*Chorthippus brunneus*) Conservation Status: no threat

Post 1980 10km squares in VC31: 6

10km squares where recorded prior to 1980: 2

The Field Grasshopper can reach sizes of up to 25mm; it is usually brown and has a characteristically marked pronotum. It is widespread and common in the UK, generally favouring dry habitats including road verges. It is no doubt much more common in Huntingdonshire than records would suggest and further survey is needed to establish its current status.

Meadow Grasshopper (*Chorthippus parallelus*) Conservation Status: no threat

Post 1980 10km squares in VC31: 7

10km squares where recorded prior to 1980: 3

Another widely distributed grasshopper which can reach sizes of 22mm. The females have very reduced wings which are diagnostic. The species is common in the county and is often found in rough grassland including road verges and is often in damper habitats than those used by the Field Grasshopper. It is no doubt more common in Huntingdonshire but further survey will be required to show this, as it is currently very under-recorded.

Lesser Marsh Grasshopper (*Chorthippus albomarginatus*) Conservation Status: no threat

Post 1980 10km squares in VC31: 12

10km squares where recorded prior to 1980: 2

The Lesser Marsh Grasshopper is superficially similar in appearance and size to the Meadow Grasshopper. Haes and Harding (1997) state that the species has undergone a considerable range expansion over the past 30 years spreading westwards from the east coast. There is a single record in the Victoria County History (Omer-Cooper 1926) from Pondersbury on the old course of the Nene. The first records after this are from Mike Skelton from the 1970s. The species is now common in the county (it is probably the commonest grasshopper in VC31) and the main expansion is now occurring in Northamptonshire and beyond to the west.

There is some evidence to suggest that the increase of the Lesser Marsh Grasshopper may lead to the decline of Field and Meadow Grasshoppers. Rands (1991) showed that in Bedfordshire the Lesser Marsh Grasshopper was displacing both species as it expanded its range. The Lesser Marsh Grasshopper had in 1991 become the second most widespread species after the Field Grasshopper.

Mottled Grasshopper (*Myrmeleotettix maculatus*) Conservation Status: CRDB

Post 1980 10km squares in VC31: 0

10km squares where recorded prior to 1980: 1

The Mottled Grasshopper is small species (12-19mm) which has characteristic clubbed antennae. It is a species of dry sunny places on sand, gravels or chalk. It was last recorded from the county in 1926 at Holme Lodge. It is however abundant on the eastern end of the Greensand ridge in Bedfordshire and therefore further surveys may still reveal its presence in Huntingdonshire.

Common Cockroach (*Blatta orientalis*) Conservation Status: not native

Post 1980 10km squares in VC31: 0

10km squares where recorded prior to 1980: 2

The Common Cockroach is not native to the UK but it does become established from time to time in places where there is permanent heating such as in restaurants, factories and hospitals. However increased hygiene standards ensure that populations rarely survive permanently. The species has not been recorded in the county since 1973 (at R.A.F. Upwood). It has no doubt though been recorded since then but to Environmental Health Officers as opposed to ecologists.

German Cockroach (*Blattella germanica*) Conservation Status: not native

Post 1980 10km squares in VC31: 0

10km squares where recorded prior to 1980: 1

The status and occurrence of the German cockroach mirrors that of the common cockroach. The species has not been recorded in the county since 1961 (at Wyton).

Lesser Earwig (*Labia minor*) Conservation Status: CRDB

Post 1980 10km squares in VC31: 1

10km squares where recorded prior to 1980: 0

This is the smallest earwig in Europe reaching only 6mm in extent. It can be mistaken for a small or immature Common Earwig, but Hawes (1997) gives a clear method of separating the two species. His paper also includes superb colour photograph of a Lesser Earwig about to fly by Chris Timmins.

Currently there is only one vice county record for Lesser Earwig, recorded in 1986 by Peter Kirby in Orton Malborne. However it is considered that this species is highly under-recorded as it appears to reside in dung heaps in farmyards and stables. Widgey (1997a&b) details to how survey for the species using a trowel which has proved very successful in Gloucestershire, where the success rate was nearly 100% with 14 new 10km records being added in 2 weeks. No doubt the species is more widespread in Huntingdonshire than current records indicate.

Common Earwig (*Forficula auricularia*) Conservation Status: no threat

Post 1980 10km squares in VC31: 11

10km squares where recorded prior to 1980: 0

The Common Earwig is familiar to everyone, with its characteristic pincer. It can reach a size of 15mm. It is found in a wide variety of situations including houses, under stones and logs and in rough grassland. Given more thorough surveying the species will no doubt prove to be ubiquitous throughout the county.

Lesne's Earwig (*Forficula lesnei*) Conservation Status: Nb & CRDB

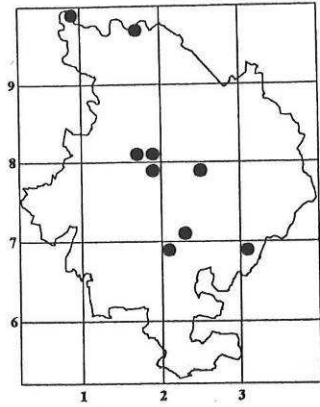
Post 1980 10km squares in VC31: 2

10km squares where recorded prior to 1980: 0

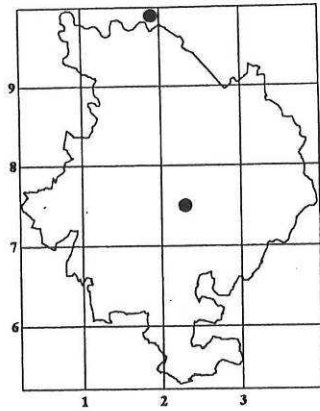
Lesne's Earwig is a small species (up to 7mm) which can be distinguished from Common and Lesser Earwigs by the absence of hindwings. It is a very elusive species and is best located by beating bushes.

There are only two county records both from Peter Kirby: Little Paxton Pits in 1985 and Aversley Wood in 1986. It is expected that further survey work will lead to additional records.

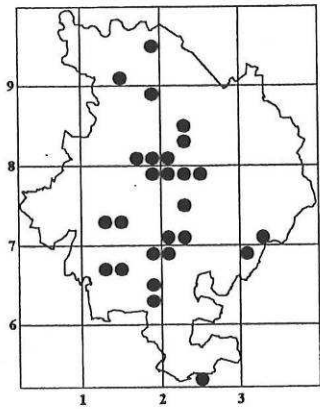
Oak Bush-cricket



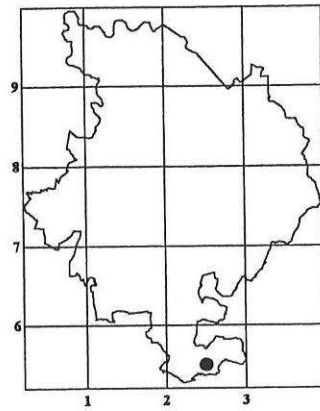
Great Green Bush-cricket



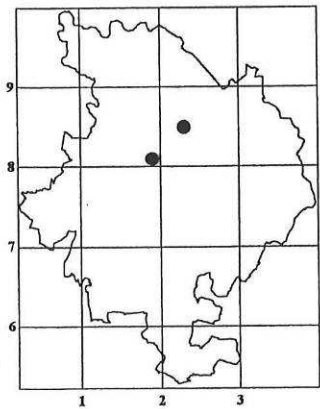
Dark Bush-cricket



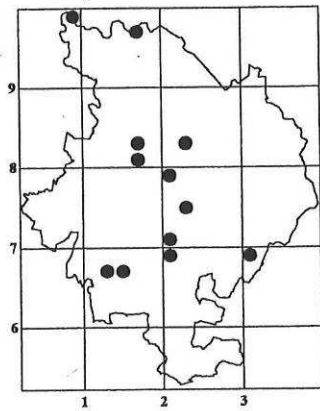
Roesel's Bush-cricket - 1996 & 1997



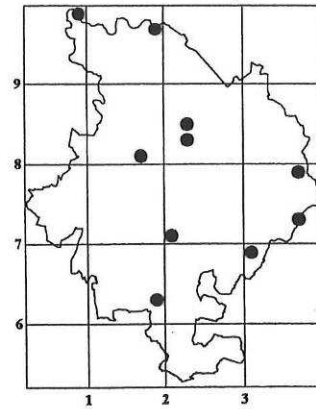
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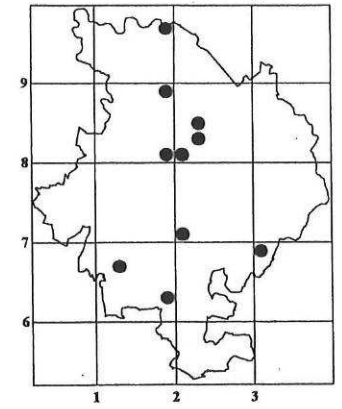
Speckled Bush-cricket



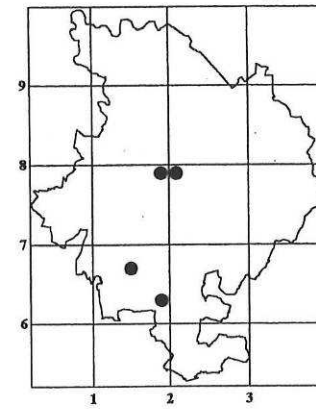
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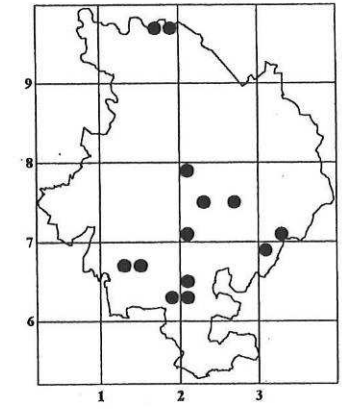
Common Ground-hopper



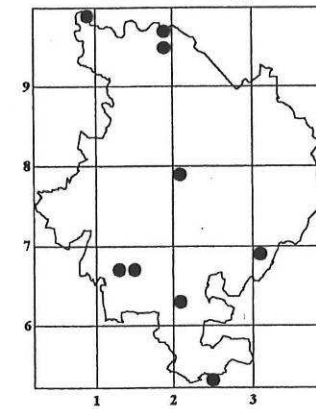
Common Green Grasshopper



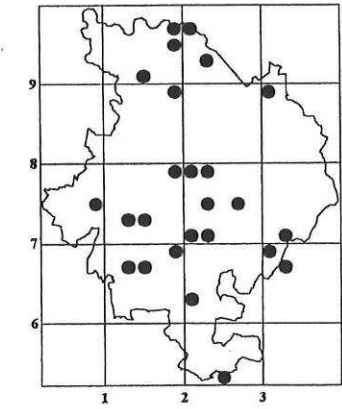
Field Grasshopper



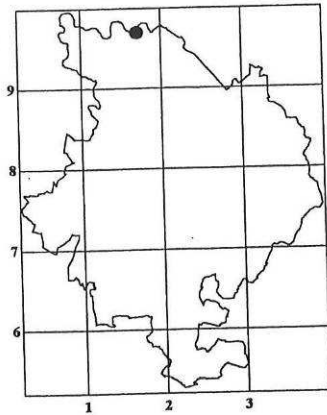
Meadow Grasshopper



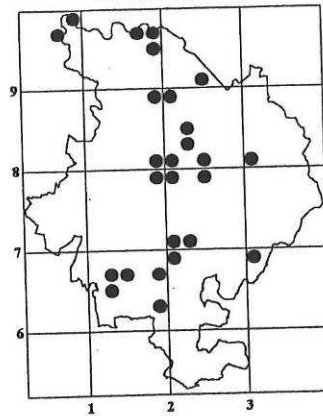
Lesser Marsh Grasshopper



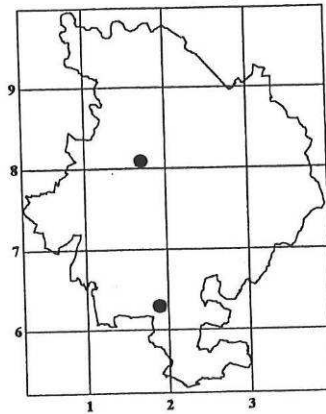
Lesser Earwig



Common Earwig



Lesne's Earwig



The Future

It is clear from the text above and maps that there is great potential for further recording of this group in the county. It is also clear that the status and distribution of orthopteroids in country is fluid and many changes can be expected in the future.

A number of species appear to be undergoing range expansions such as Roesel's Bush-cricket, the Short-winged Cone-head and the Long-winged Cone-head (*Conocephalus discolor*), perhaps as a result of climate change. Others such as the Mottled Grasshopper (which is locally common in Bedfordshire) remain to be rediscovered. There are also of course all the obvious gaps still to fill for the common species.

Finally there is one other species which should be mentioned and searched for - Cepero's Ground-hopper (*Tetrix ceperoi*). This species is normally considered as a coastal species from southern Britain. Peter Kirby however found the species in a brick pit in north Cambridgeshire near Whittlesey in 1995 - over

140km north-west of any previous record and well inland (Widgery 1996a). There are similar habitats in north Huntingdonshire which may contain this species. It is however very difficult to separate from the Slender Ground-hopper and new records will only be accepted by the National Organisers of the Orthoptera Recording Scheme if a voucher specimen is provided.

In addition to future records I would be very pleased to receive details of any other published records of orthopteroids in Huntingdonshire which I have missed.

BRC recording cards can be obtained from BRC, ITE Monks Wood, Abbots Ripton, Huntingdon, PE17 2LS. Completed cards should be sent to me, Adrian Colston, The National Trust, Wicken Fen N.N.R., Lode Lane, Wicken, Ely, Cambridgeshire, CB7 5XP. I am also happy to identify specimens if required. Details of the Orthoptera Recording Scheme for Great Britain and Ireland can be obtained from the national co-ordinator John Widgery, 21 Field View Road, Potters Bar, Hertfordshire, EN6 2NA.

Acknowledgments

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