A close-up photograph of a green grasshopper with long antennae, perched on a large green leaf. The grasshopper's body is primarily green with some reddish-brown markings on its back and legs. The background is a soft, out-of-focus green. The text is overlaid on the upper right portion of the image.

ORTHOPTERA OF NORTH
LANCASHIRE AND SOUTH
CUMBRIA

MICHAEL FOLEY

Self-published by the author in 2015.

Text and photos © Michael Foley



The area covered comprises the vice-county of West Lancashire (v.c. 60, i.e. Lancashire north of the River Ribble) plus part of southern Westmorland (v.c.69), the latter being roughly limited to the north by the extent of the limestone exposure. This is the area recorded by the North Lancashire Wildlife Group. At present, twelve species of Orthoptera are known to occur here, six of them are bush-crickets, four are grasshoppers, and two are groundhoppers. Whilst it is not so rich an orthopteran fauna as is found in the south of England and the Midlands, it is nevertheless quite impressive and probably numbers more species than elsewhere in the north.

Bush-crickets are readily identified by their very long flexuous antennae which can be up to four times the length of the body; the antennae of the grasshoppers are very much shorter than the body and rather more sturdy. In some species the male's antennae are clubbed. Those of the groundhoppers are similar to the grasshoppers but the pronotum extends to the tip of the abdomen or even beyond and this readily separates them from grasshoppers. Some species of bush-cricket are very short-winged or virtually wingless (brachypterous) and therefore unable to fly but on occasion a longer-winged form can develop which is then capable of flight. This is thought to occur when populations become overcrowded so enabling dispersion and the formation of new populations elsewhere. Several species are gradually spreading northward and although they have not yet reached our area it is worth keeping a look-out for the Long-winged Conehead (*Conocephalus discolor*), the Stripe-winged Grasshopper (*Stenobothrus lineatus*), and the Lesser Marsh Grasshopper (*Chorthippus albomarginatus*), all of which have recently established themselves in the Midlands.

The photos were all taken within the local area by me (except for the Meadow Grasshopper, photo 2, at Cirencester).

Michael Foley - January 2015

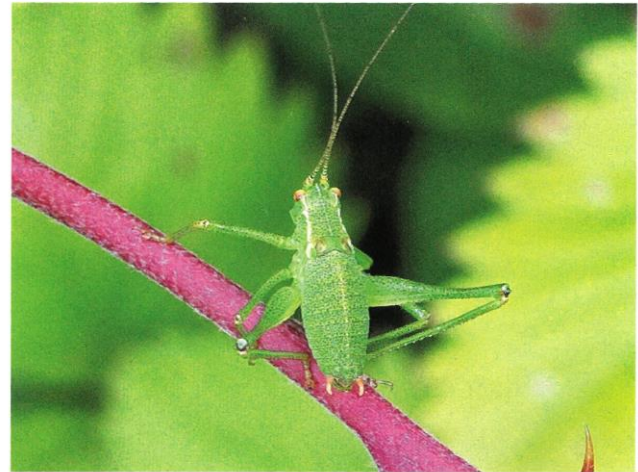
Cover photos: Speckled Bush-cricket, Eaves Wood (front); Roesel's Bush-cricket, Rossall (back)

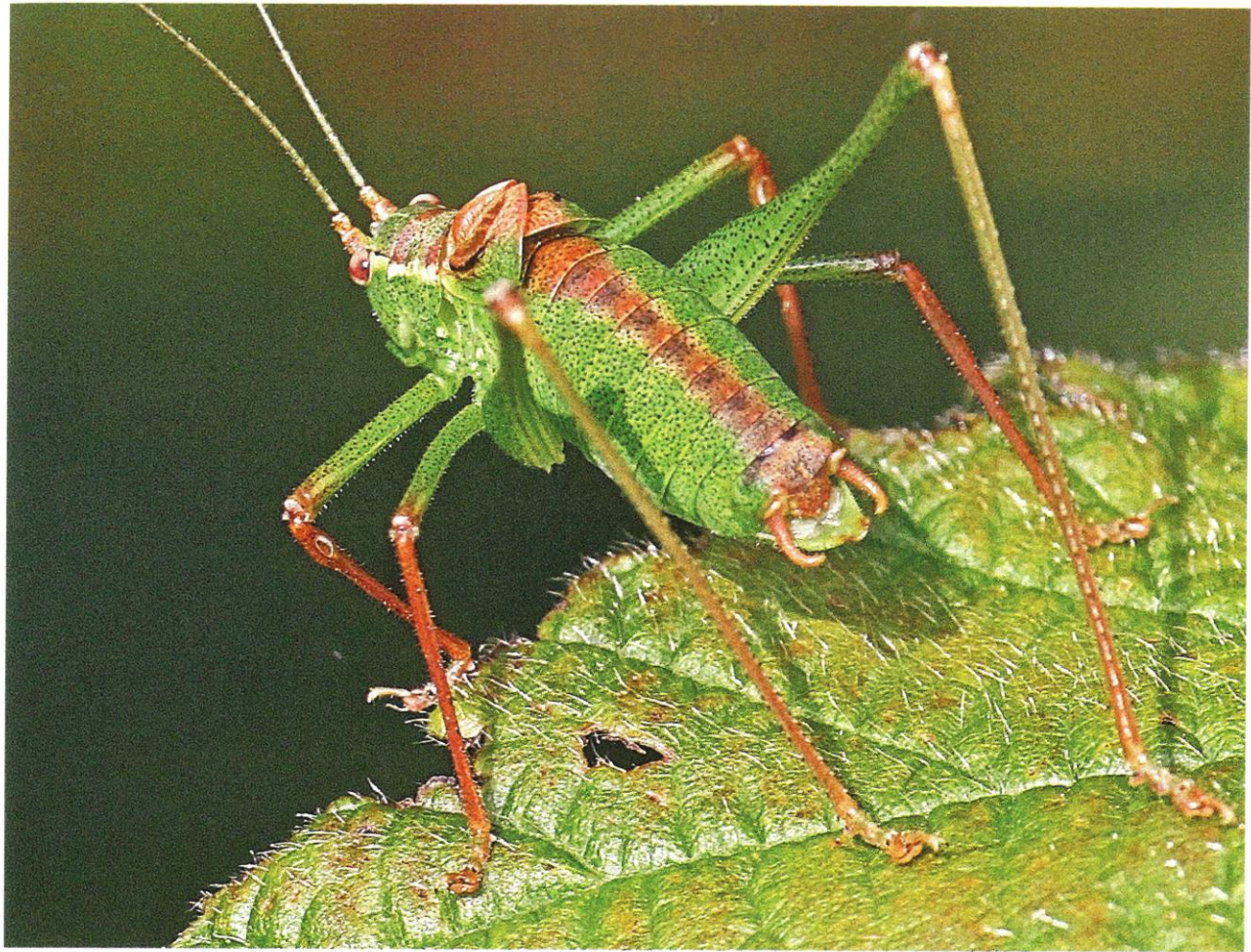
Speckled Bush-cricket (*Leptophyes punctatissima*)

First recorded in the area by J Blackburn in 1992 as a single individual in a garden at Warton (SD499728). This was not only new to the area, but new to v.c 60, and a new 100km square record; however there appears to have been no further records from here. Elsewhere, it is restricted to three quite limited localities. There is a strong colony in part of Eaves Wood, Silverdale, where it has been recorded from four contiguous 100m squares. These include private gardens and vegetation along the upper part of Elmslack Lane and especially the scrub on the steep rocky slopes above known as Castle Bank. In addition, it has been found slightly further north into the wood (several recorders, J Newton, L Renshaw, A Holmes, M Foley). On the north side of the Kent estuary at Humphrey Head it occurs locally in the hedgerow alongside Holywell Lane where it was first found in 2006 by J Newton; there is also another record nearby close to the cliff-face. Other than here there are at least three separate populations below Whitbarrow Scar: on the west side it is present in woodland at two places to the east of Witherslack School. The first is at SD4409.8612 where calls were picked up on the detector by L Renshaw in 2014, and at SD439.864 beside the path from the kennels to the Scar (S Hewitt, 1998); however it wasn't re-found at the latter site recently (M Richards). Below the steep south side of the Scar there is a strong population in vegetation alongside the path behind Witherslack Lodge. It was first recorded here by a Mrs Oates in August, 2005; there appear to have been no further records until it was re-found by L Renshaw in 2014. This strong population extends along a 300 metre stretch of pathside centred on SD4542.8466.

Averaging 15mm long, it has a bright green body covered with many minute dark speckles, a pale stripe extending along its back from behind the eyes, and very short vestigial forewings and no hindwings; consequently it is flightless. The call is readily audible on a bat detector as a series of sharp clicks every three or four seconds. Present throughout much of Europe, in Britain it is essentially a species of southern England. Closer to our area there are scattered records from Yorkshire, Merseyside, North Wales, St Bees Head, and along the south-west coast of Scotland,

Photos: Silverdale (a male nymph opposite)





Oak Bush Cricket (*Meconema thalassinum*)

When discovered at Arnside in October 1982 it was the most northerly post-1960 record in the country. Nowadays it is restricted to two quite distinct areas: the Ribble Woods to the south, and around the upper Kent estuary to the north. All records from the Ribble Woods are from ancient woodland and are within four 10km squares on the north bank of the Ribble east of Preston. The most recent record here was in 2014, a female found on an oak (M Foley) at the northern edge of Redscar Woods (SD5836.3216); in the previous year a male had been found at almost the same place (M Foley). In the two decades preceding this, the only documented records at this locality were of nymphs seen in 1994 at the northern margin of the Boilton/Red Scar Woods (M Ainscough & J Edmunds). However, the first discovery in the entire woodland system was in 1981 by D & J Steeden further west at Boilton Wood (SD5731) although there is an unattributed record in the same year at nearby Sunderland Hall (1981, Anon). Later, it was reported close by at Elston Lane (1985, D Bunn) and near Alston Hall (1985, P Thompson). Around the upper estuary of the Kent, the most recent records (both 2013) are at Arnside where a female was found by A Holmes on Heathwaite on an oak beside the main track just north of the 'seat with a view'. On the same day another female was found by H Cockram, when one appeared overnight on his house door in Arnside, presumably attracted to a light. Earlier records near here have been from Levens village (N Edwards, 2011), Latterbarrow (W Nelson, 2007), in/near a garden in Arnside village (P Glading, 2005), and Brigsteer Woods (B Fereday, 1994). Arnside Knott, and especially the sunny south-facing slope of Heathwaite, is probably its stronghold as there are several other unlocalised records here between 1976 and 1999 (e.g. J Newton, E Hayhow, D Bunn, W Kydd, W Grayson, I Cross, etc). A National Trust warden recently found Oak Bush-crickets on the roof of his Land Rover when parked under oaks on a windy day on Heathwaite; this was just beyond the top of what is known locally as the Pig field. All these localities need re-investigating, and especially so those on the north side of the Kent estuary

This is a rather delicate pale green bush-cricket, 11-17mm long, with wings reaching the tip of the abdomen. Females lay their eggs in the bark of oaks. Frequent in southern England and the Midlands with a few additional colonies further north. Nocturnal, and non-stridulating.

Photos: Ribble Woods





Roesel's Bush-cricket (*Metrioptera roeselii*)

Only known here at the single remarkably isolated population at Rossall near Fleetwood where it was discovered in August 1991 by D & J Steeden. At that time (and even now) the species was virtually restricted to south-east England apart from small isolated colonies in Wales, Lincolnshire and on Spurn Head (East Yorkshire). Even today, it is not known elsewhere within 100km or more (Nottinghamshire). All the Rossall records are concentrated in a fairly small area. It has been suggested that its arrival here may have been due to eggs or nymphs being transported in hay. In June 2002, J Newton found nymphs in rank grassland some distance to the west and quite close to the sea (SD312448). Additional unconfirmed, un-localised sightings exist for two other adjacent tetrads, one of which lies to the north, the other to the east, although it's possible that these might be errors. Most modern records have been centred on approx SD 317451 which is at, or close to, the original locality. Here the habitat is dense bramble running alongside a track. There are a few other anecdotal records from slightly further west near to a school entrance but most of this area is on private land making it difficult to access properly and to establish the true extent of the population. As of 2014, the population continues to thrive.

It can vary between 13-25mm, with both sexes of a similar size; the colour is mostly a mixture of grey-brown and green. A useful identifying character is the bright yellowish margin running along the full length of the pronotum (in the Bog Bush-cricket this is restricted to the rear part only), and also the small yellow patches on the sides of the thorax to the rear of the pronotal plates. The wings are much reduced reaching scarcely more than half the length of the abdomen, although a small number of a longer-winged form (f. *diluta*) in which they extend beyond the tip of the abdomen, occurs in most populations. The male's stridulation is readily picked up on the detector as a prolonged crackle. Dense vegetation, especially bramble is the favoured habitat. Roesel's Bush-cricket occurs throughout most of southern Europe and as far north as southern Scandinavia.

Photos: Rossall





Dark Bush-cricket (*Pholidoptera griseoptera*)

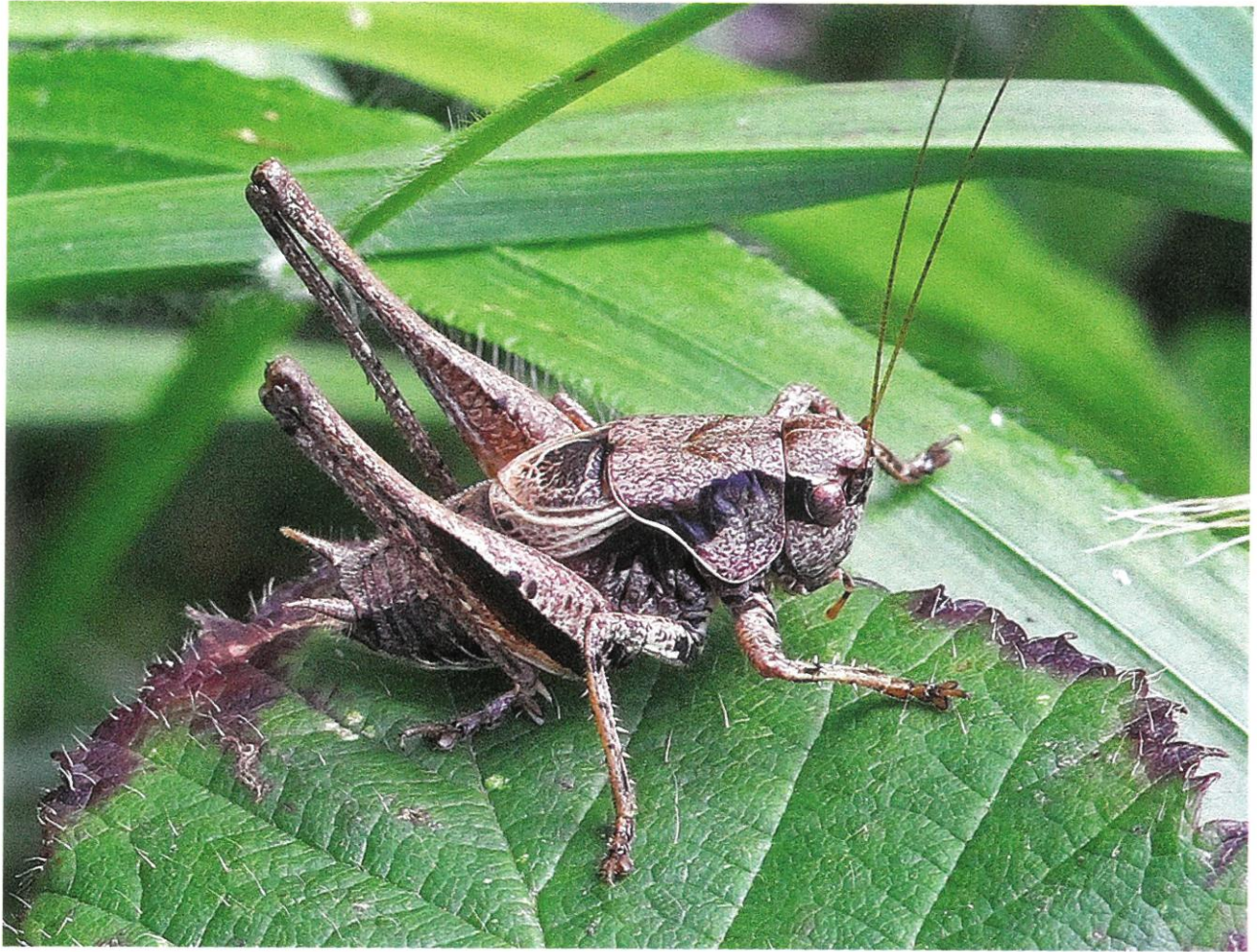
The first record here appears to have been that of J Paul at Arnside in 1984, and even now it is still restricted to the slopes of Arnside Knott despite some distribution maps showing it as present on moss-lands north of the Kent estuary (errors for the Bog Bush-cricket). The warm south-facing slopes of Heathwaite holds strong populations wherever there are fairly open patches of low-growing bramble and hazel, the favoured habitat here. It was also introduced at a butterfly garden at Pleasington, near Blackburn, but is likely not to have survived there for long.

North of the area, there are modern records from St Bees Head on the Cumbrian coast (found in 1992) where the Speckled Bush-cricket also occurs and from near Laxey on the Isle of Man. Additional records exist from Tilberthwaite near Coniston and from a site on the eastern side of Windermere but these appear not to have been confirmed in recent decades. Further south it has been recorded in the Manchester area and along the North Wales coast. The northerly current limit in Britain is on the north coast of the Solway.

Varying in size from 13-20mm, with both sexes similar in size, this is a robust-looking bush-cricket, usually dark brown or grey-brown in colour, and very short-winged, and it especially inhabits low scrub and bramble. It is common throughout Europe; in Britain it is, as with many other Bush-crickets, a very frequent species south of a line from the Bristol Channel to the Wash, with localities rapidly thinning out north of there.

Photos: Heathwaite





Bog Bush-cricket (*Metrioptera brachyptera*)

Within the area it occurs in four distinct regions, all of similar acidic bog habitat but separated from each other by some distance. One locality of limited extent is near Winmarleigh on the Fylde; the other three lie to the north of the Kent estuary and comprise the 'Witherslack Mosses', additional mosses on the eastern side of the Leven estuary, and an area of moss-land beside the Duddon estuary. At the Winmarleigh (Cockerham) Mosses, unlocalised records date back to 1946 (provided by a Mr Whellam) and recent ones confirm its continued presence here. Of those further north, modern recording confirms strong populations on the Witherslack Mosses, especially at the nature reserves of Foulshaw and Meathop, and at the nearby Nichols Moss. At the mouth of the River Leven, populations are scattered across a complex of mosses at the side of the estuary. Recent records here include the raised bog area of Roudsea NNR and other nearby mosses: e.g. Stribers, Ellerside, Deer Dyke, Fish House, and White Moss. By the upper estuary of the River Duddon there is a population on White (Angerton) Moss just south of Broughton-in-Furness. (A fairly recent record of interest, but outside the area, was at Woolden Moss, Irlam, in 1982).

The Bog Bush-cricket is present throughout much of Europe. Coloured mainly green and brown, and green below, it varies in size from 11-21 mm and is short-winged although there is a much scarcer fully-winged form (f. *marginata*). The cream-coloured band on the margin of the pronotum is restricted to the rear edge only (cf. Roesel's Bush-cricket in which the band runs the whole way round). Stridulation by the males comprise a shrill buzz and is readily picked up on the detector. It is largely restricted to damp lowland heaths and bogs. It occurs in northern and central Europe but is absent from the south; it is also present in temperate Asia. In Britain it is frequent in suitable habitat in the very southern part of England but rapidly becomes scarce further north where it just reaches into southern Scotland.

Photos: 1 & 3 Foulshaw Moss; 2 Roudsea, male nymph





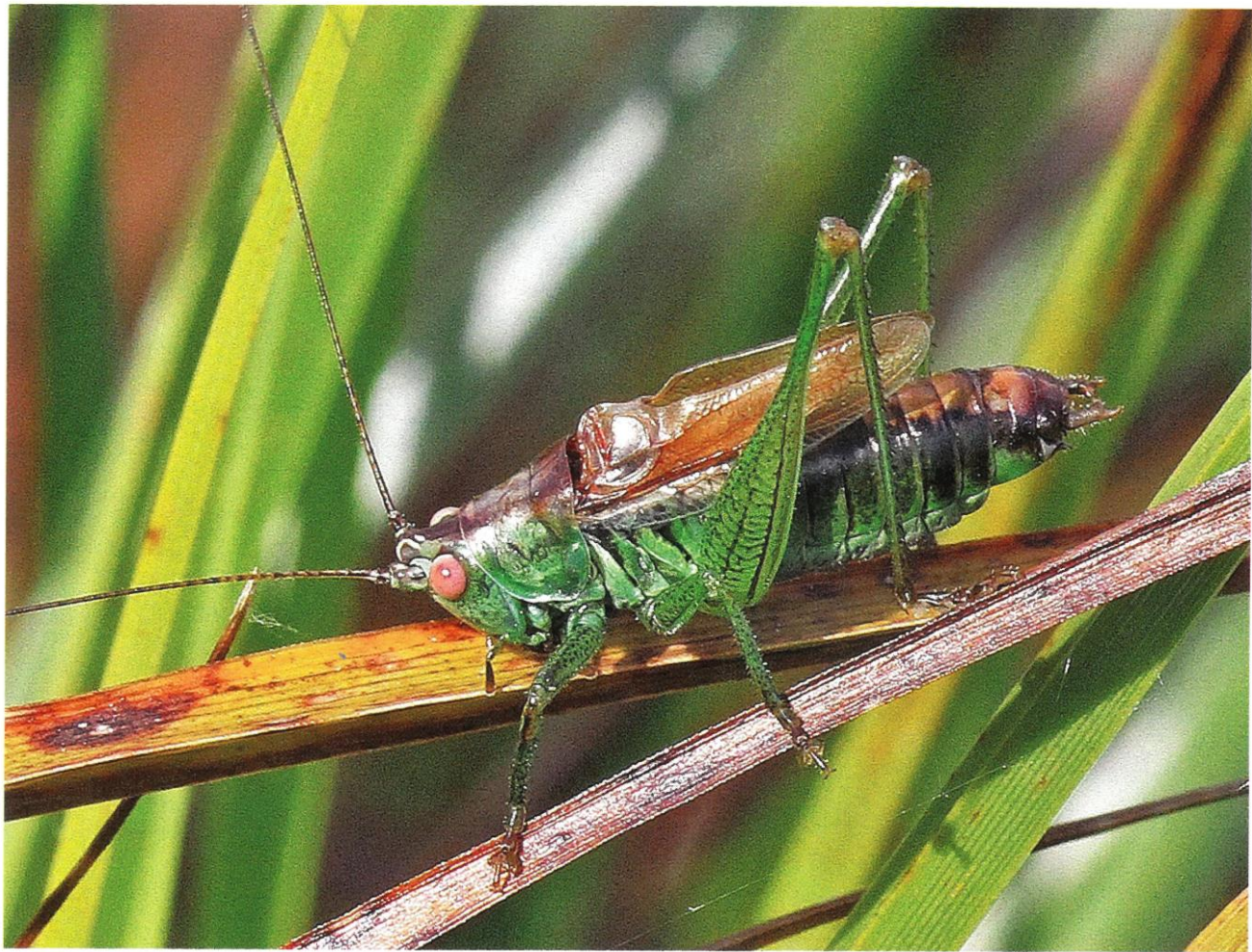
Short-winged Conehead (*Conocephalus dorsalis*)

It had been known at Newborough Warren on Anglesey for quite a while but it was still a surprise locally when it was found on the saltmarsh at Marshside near Southport in the summer of 2004. Since then it has quickly moved north, first along the Ribble estuary (2006), then on the Wyre and Lune estuaries (2007), and it is now established in strong populations in salt marsh around Morecambe Bay wherever the habitat is suitable. Without doubt it is our most frequent bush-cricket.

This is a fairly small green bush-cricket, 11-18mm, with a rather pointed head, a brown stripe along its back, and short brown wings, although there is a rare form in which the pairs of wings are much longer (f. *burri*). It is widespread but local in much of Europe. In Britain it is especially found in salt marsh and other coastal vegetation (but can occur at wet habitats inland in the south). Currently, it is frequent across most of south-east England and south Wales. There was a major northerly extension of range in the 1990s, and by taking advantage of its favoured salt-marsh habitat, it has moved up the west coast of Britain very rapidly and has already reached the north coast of the Solway. This spread is probably due to the tidal movement of flotsam, comprising reeds and grasses into which eggs had already been laid, being dispersed along the coast whenever high tides inundate the salt-marshes. The prevalent south-westerly winds would also assist the spread.

Photos: Carnforth saltmarsh



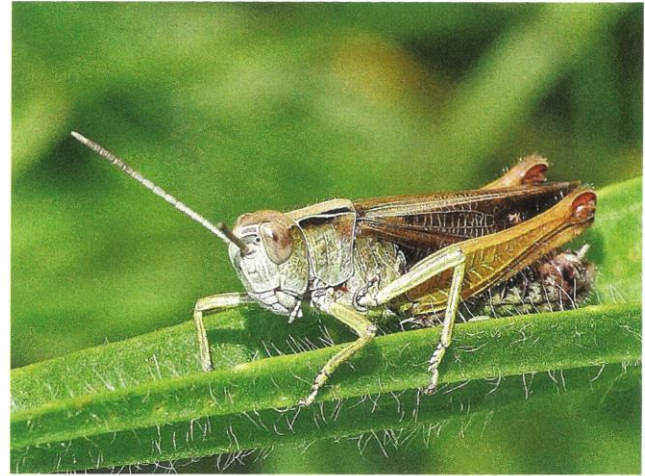


Common Green Grasshopper (*Omocestus viridulus*)

Widespread throughout Britain except for the far north of Scotland, it is very frequent in our area wherever there is suitable habitat. Rather surprisingly it has also been recorded here on salt marsh at three locations.

A medium-sized grasshopper, 15-22mm long, the males smaller than the females. The side-plates of the pronotum are gently incurved (but not sharply inflexed as in the Field and Mottled Grasshoppers) and have a white line running along their upper edge. They occur in various colours, including green, brown, fawn, black, purple, and various combinations. There is never any red on the abdomen as in the Field Grasshopper. They particularly favour grassy habitats, especially where the grass is long and moist but can also be found in open woodland and in rides. It is found throughout most of northern and central Europe and eastwards into Asia.

Photos: 1 & 3 Brockholes; 2 Roudsea, nymph





Field Grasshopper (*Chorthippus brunneus*)

Very frequent in southern and central England and also quite common further north but becomes much scarcer and mainly coastal north of central Scotland. In our area it is the most common orthopteran, and is found in a wide range of grassy and ruderal habitats.

The males are 15-19 mm, noticeably smaller than the females which can be up to 25 mm long. The side plates of the pronotum are strongly inflexed (but less so than in the Mottled Grasshopper) and the wings extend just past the tip of the abdomen. The underside of the thorax is very hairy. They can be found in a wide range of colour forms, including combinations of grey, brown, green, orange, and red. Mature males are bright orange-red towards the end of the abdomen, and the females are similar but of a paler orange. Having the above distinguishing characters they are unlikely to be confused with any other species within our area. They occur in a wide range of habitats, from roadside verges, to dry grassland, to lightly vegetated quarry floors, rocks, and even to recently disturbed land. This is a wide-ranging species occurring throughout most of Europe, eastwards into Asia and south to North Africa.

Photos: 1 Ainsdale; 2 Allithwaite; 3 Warton Craq





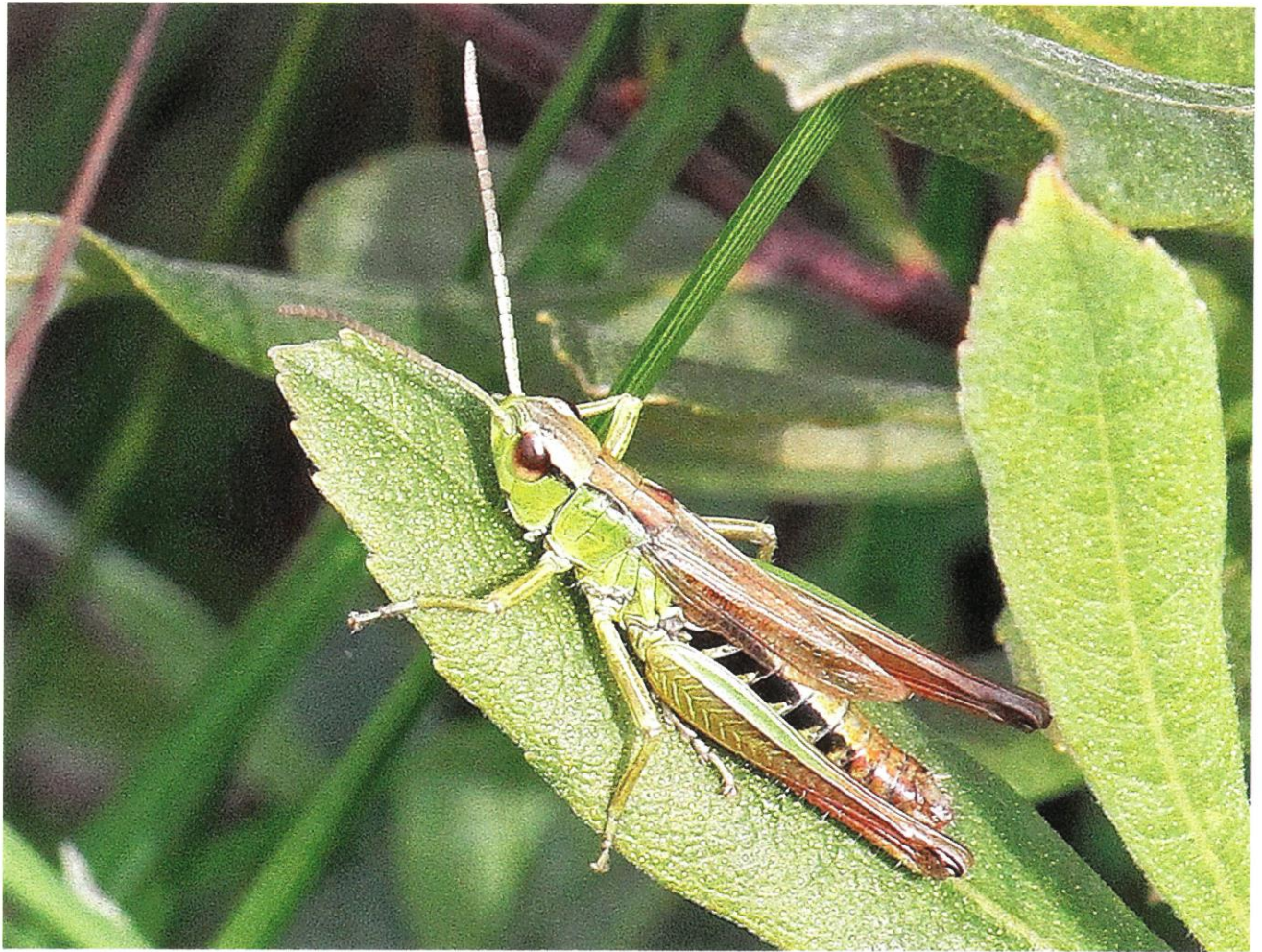
Meadow Grasshopper (*Chorthippus parallelus*)

It occurs at most of the lowland mosses such as Cockerham, Foulshaw, Meathop, Outley and at Roudsea. It is also known from Farleton Knott and Leck Fell and from many upland grassy places within the area, and especially so in south Cumbria.

The males are 10-17 mm long, much smaller than the females (16-23 mm). Best identified by their relatively short wings, which are especially short in the female and by the (only slightly) incurved side-plates of the pronotum. The antennae of the males are noticeably longer than those of the female. Very variable in colour including combinations of green, brown, pink, purple, grey and yellow, and as such it is quite similar to the Lesser Marsh Grasshopper (but so far not recorded in our area) although that species is much longer-winged. In the south of England it favours most types of grassland but in our area is restricted to lowland mosses and upland damp grassland. It is widespread throughout most of Europe and eastwards into Asia. It is very common in southern England but rather more scattered further north.

Photos: 1 & 3 Foulshaw Moss; 2 Cirencester Park





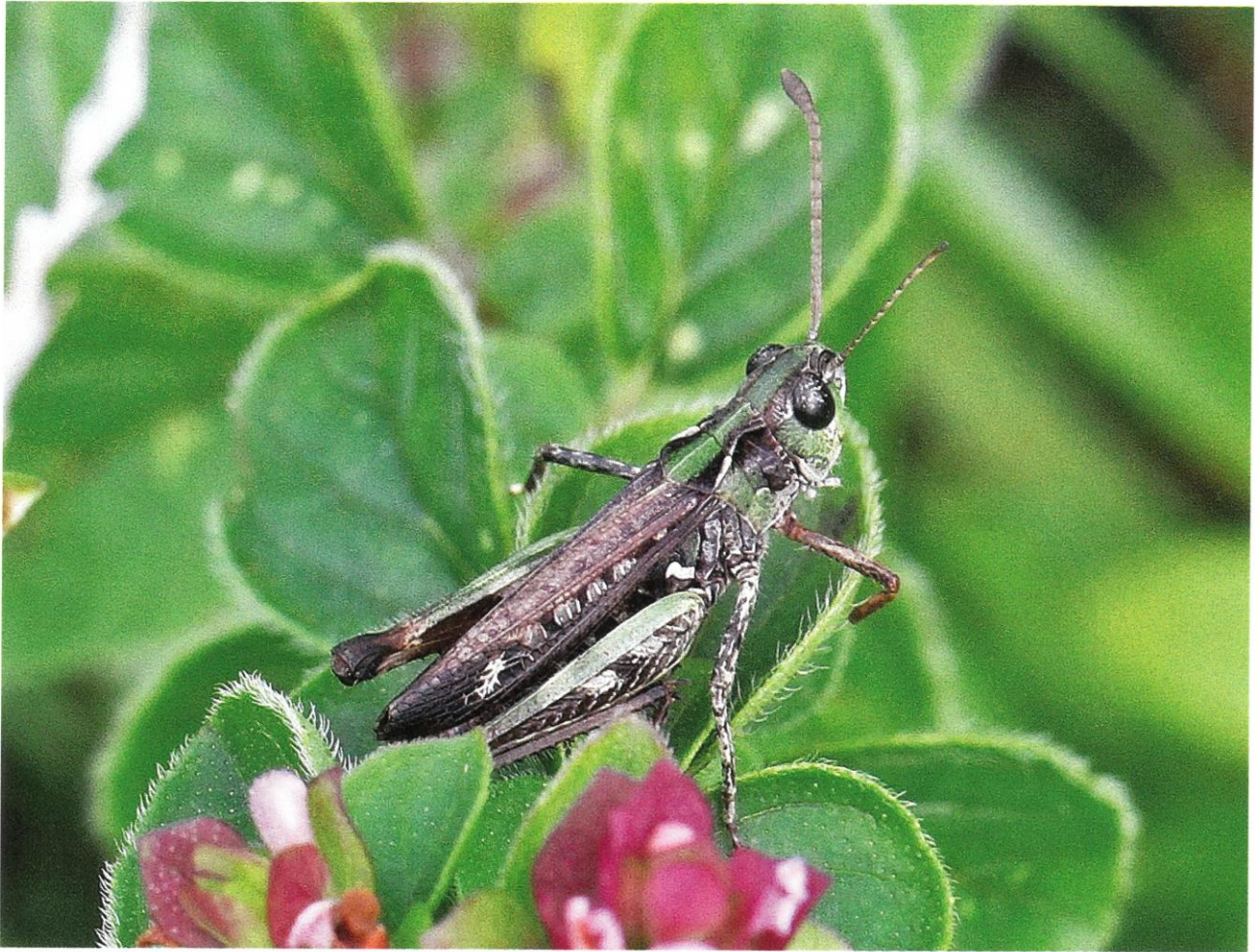
Mottled Grasshopper (*Myrmeleotettix maculatus*)

Only frequent in the northern part of the area especially in the Arnside/Silverdale/Warton/Hutton Roof areas and also in many places north of the Kent estuary, including the coastal dunes at Sandscale and on Walney. Further south it is much scarcer but occurs on the coast at Fairhaven and St Annes and has also been recorded inland near Garstang. There are also populations in the Lune valley and in Bowland.

This is a small grasshopper, 12-19 mm long, the females slightly larger than the males. Their small size alone can help to distinguish them from our other three local grasshopper species. In both sexes the side keels of the pronotum are strongly indented (noticeably more so than in the Field Grasshopper) and the wings reach the tip of the abdomen although they can be shorter in some females. The male's antennae are long and distinctly clubbed, the tips face outwards, whereas those of the female are shorter and thickened at the tips rather than clubbed. There is a very wide range of colour forms, often as a combination of colours, green, brown, yellow, etc, so that in overall appearance they readily blend in with the substrate; this might be a result of adaptation to habitat. Preference is for dry open habitats where the vegetation is short with areas of bare ground exposed. Sunny south-facing slopes are favoured as are quarry floors and limestone exposures. Distributed throughout much of Europe, northwards into southern Scandinavia and eastwards to Siberia; it is also quite widespread throughout much of Britain.

Photos: 1 & 2 Hutton Roof; 3 Warton Crag





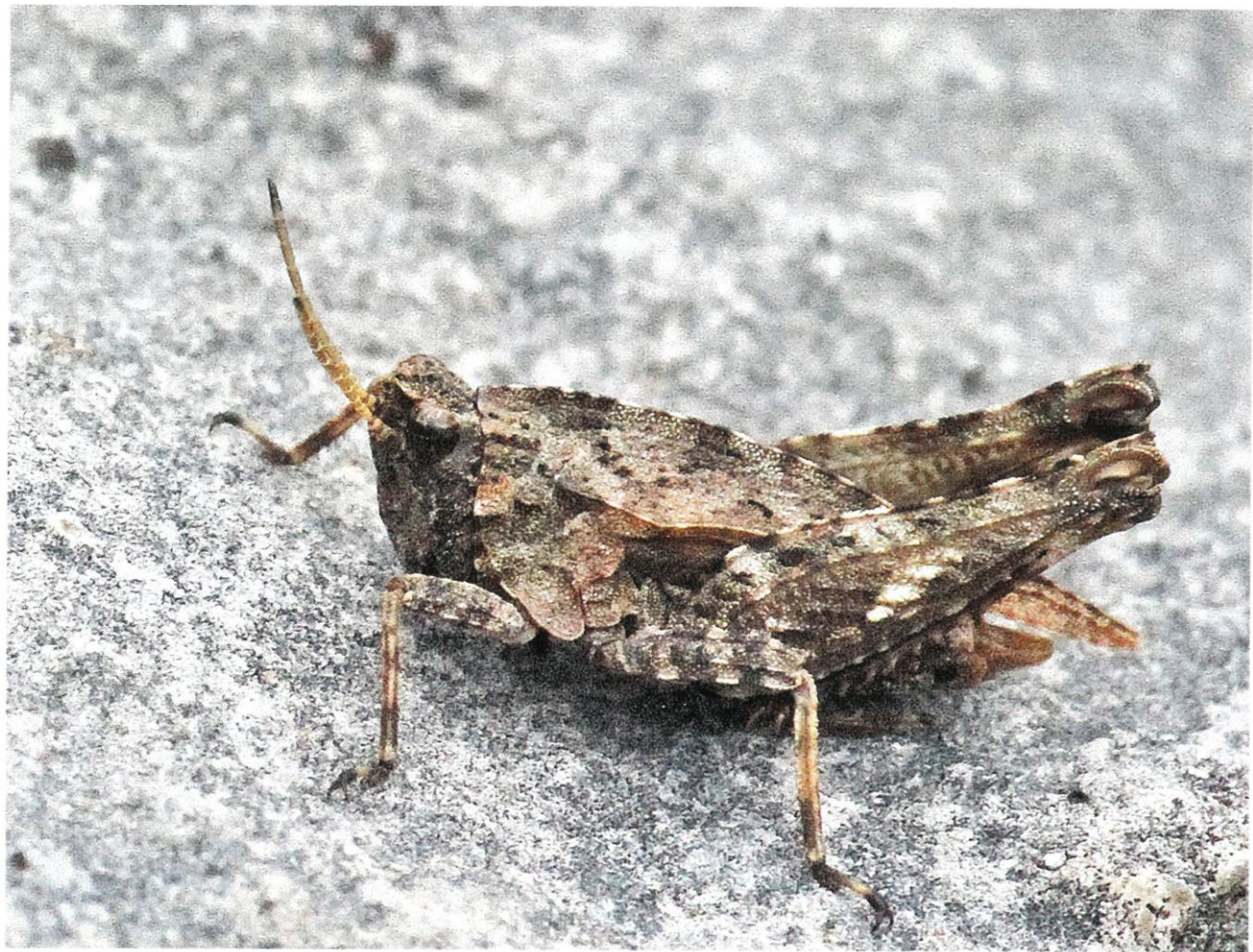
Common Groundhopper (*Tetrix undulata*)

Widespread and frequent in the northern half of the area and especially so around Arnside, Silverdale, and Warton, as well as at Gaitbarrows and Hutton Roof and much of the area north of the Kent estuary, including Hodbarrow, Walney, and Sandscale Haws. It is also present at most of the northern mosses such as Meathop, Foulshaw, Roudsea, and Outley, and several others. Further south it is much scarcer but is known from Cockerham and Winmarleigh Mosses, at Great Plumpton in the Fylde, in a few places in the Lune valley and near the River Roeburn, and at Dinkling Green in Bowland.

The colour is mainly a mixture of grey, brown, and yellow, in a wide range of combinations. Measuring only 8-11 mm in length, the males smaller than the females, it is more compact in appearance than the Slender Groundhopper because of its shorter pronotum which reaches only to the tip of the abdomen (or occasionally slightly beyond) with the wings more or less concealed below it. Viewed from the side, the curved convex keel of the pronotum helps to separate it from the Slender Groundhopper; there is also a rare fully-winged form (f. *macroptera*). It is found in a much wider range of habitats than the Slender Groundhopper but does occur similarly at damp mossy pond margins and other moist areas. Otherwise, preferred habitats are sunny dry places with sparse vegetation such as path margins, woodland clearings, and open quarry floors. It is found in much of Europe except for the far north and southern Spain, and also occurs throughout most of Britain.

Photos: 1 & 2 Ainsdale; 3 Hutton Roof





Slender Groundhopper (*Tetrix subulata*)

Quite scarce here. It was first recorded as a single specimen at Silverdale Moss in 1987 and identified as the short-winged form, f. *bifasciata* (see below); the actual specimen is now in the British Museum collection. There were no further records here until 1995 when insect trapping at Hawes Water Moss yielded a total of 35 adults over a four-week period, all of them of the short-winged form. More were found there in the following year, including a single long-winged (i.e. typical) form. In 1997 several more were found nearby at Hale Moss and another two at Bank Well in the following year; again all of these were the short-winged form. Recently, it has been found in the south of the area at Brockholes just north of the Ribble. There it favours consolidated muddy areas close to water. Being small and blending in with the habitat, it is quite possibly overlooked elsewhere.

Ochre-brown to greyish, long and narrow in shape, and varying in size, 9-15mm, the males are rather smaller than the females. The pronotum is long and tapering and extends slightly beyond the tip of the abdomen, and the wings when folded are concealed beneath it with the tips protruding slightly. It favours damp habitats, especially fens where the vegetation is very sparse, and it can often be found on mossy open areas. It is widely distributed throughout Europe, temperate Asia, North Africa and North America. In Britain it is widespread in southern and central eastern England, north to south Yorkshire, with more isolated populations in Wales. It is also present in Cheshire and Merseyside, and on the Sefton coast of south-west Lancashire.

The short-winged f. *bifasciata* can be easily confused with the Common Groundhopper from which it is best distinguished if viewed from the side. From that angle it can be seen that the keel on the pronotum is almost straight in the Slender Groundhopper whereas in the Common Groundhopper it is noticeably arched dorsally. In addition, the hind wings of the short-winged form project slightly beyond the tip of the pronotum whereas in the Common Groundhopper they are usually hidden.

Photos: 1 Brockholes; 2 f. *bifasciata*, Ainsdale; 3 Ainsdale







Where they can be seen

To help anyone wishing to see the various species, the grid references below are where there is a reasonable chance of success. Please do not harm or relocate the insects or enter private land; also please report any sightings or habitat damage/disturbance. Bear in mind that species marked * can be especially difficult to locate!

Speckled Bush-cricket * SD454846

Oak Bus-cricket * SD583321

Dark Bush-cricket * SD446767

Bog Bush-cricket* SD458836

Short-winged Conehead SD486710

Field Grasshopper SD552761

Common Green Grasshopper SD388768

Meadow Grasshopper SD458836

Mottled Grasshopper SD552761

Common Groundhopper SD552761

Slender Groundhopper SD471771

The Roesel's Bush-cricket * site is sensitive and is on private land. Access might be possible but please do not enter without the owners' permission.



(top) Allen Holmes and Linda Renshaw searching for Dark Bush-crickets on Heathwaite, September 2014

(opposite) Foulshaw Moss Nature Reserve, home of the Bog Bush-cricket and the Meadow Grasshopper



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