

Bumblebees of Norfolk



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Photo title page *Bombus hypnorum* worker, Swanton Novers Nick Owens

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Norfolk

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Key to maps

Latest record:



Pre-1980



1980-1999



2000-2020

The Bumblebees of Norfolk

As an aid to identification, the Norfolk bumblebees are presented in three subsets:

- **seven common species** which are widespread across the county and which are easily identified as queens in spring,
- **five uncommon species** with a restricted distribution in Norfolk,
- **six species of cuckoo bee**. These parasitise the nests of the social bumblebees and so do not have a worker caste of their own.

Life history

Bumblebees overwinter as hibernating queens. These emerge in the first warm days of spring to seek nest sites in which to raise first broods. The queen herself must forage for this first brood, but subsequent foraging is undertaken by the emerging worker caste. Workers are much smaller than queens but usually have a similar colour pattern.

Males appear later in the season. They mate with the new generation of queens which seek out hibernating places for the next winter. Only occasionally will this new generation of queens raise an immediate brood in the year in which they were hatched. Males have longer antennae, more yellow hair and lack a pollen basket.

Identifying bumblebees (*a quick guide*)

Differences between species are most readily observed in queens which are active early in the season as they search for nest sites after winter hibernation.

Queens which are **all black except for the red tip to the abdomen** are either *B.lapidarius* (common), *B.ruderarius* (uncommon: look for the red hairs on the pollen basket to confirm), or the much rarer *B.rupestris* (a cuckoo of *B.lapidarius*).

Queens with a **ginger thorax** are either *B.pascuorum*, *B.hypnorum* or the much rarer *B.muscorum*.

A small queen with **yellow bands on the thorax and red tip to the abdomen** is *B.pratorum*.

To distinguish the other social bumblebees look for the number of **yellow bands** on the thorax and for a white or buff tip to the abdomen (see species accounts for *B.terrestris*, *B.lucorum*, *B.hortorum* or the much rarer *B.ruderatus* and *B.jonellus*).

The cuckoo bees are much more difficult to tell apart, except for *B.vestalis* and *B.rupestris* which are large species with prominent markings.

For more detailed identification guides refer to the texts in the bibliography.

The seven common species

As an aid to identification, species are presented according to the colour bandings of the queen. They are presented in the following order: yellow-banded, red-tailed, and species with a ginger thorax.



Buff-tailed Bumblebee *B. terrestris*

Large, two dark yellow bands with buff tip to tail.



White-tailed Bumblebee *B. lucorum*

Large, two bright yellow bands, white tip to tail



Garden Bumblebee *B. hortorum*

Look for the yellow collar with a double yellow band across the waist



Early Bumblebee *B. pratorum*

Small bumblebee, yellow bands sometimes absent, orange-red tip to tail



Red-tailed Bumblebee *B. lapidarius*

Large, all black with red tip to abdomen



Common Carder Bumblebee *B. pascuorum*

The most common bumblebee with ginger thorax



Tree Bumblebee *B. hypnorum*

The only bumblebee with ginger thorax and prominent white tip to the abdomen.

Glossary: collar – the colour band behind the head; scutellum – the colour band at the rear of the thorax

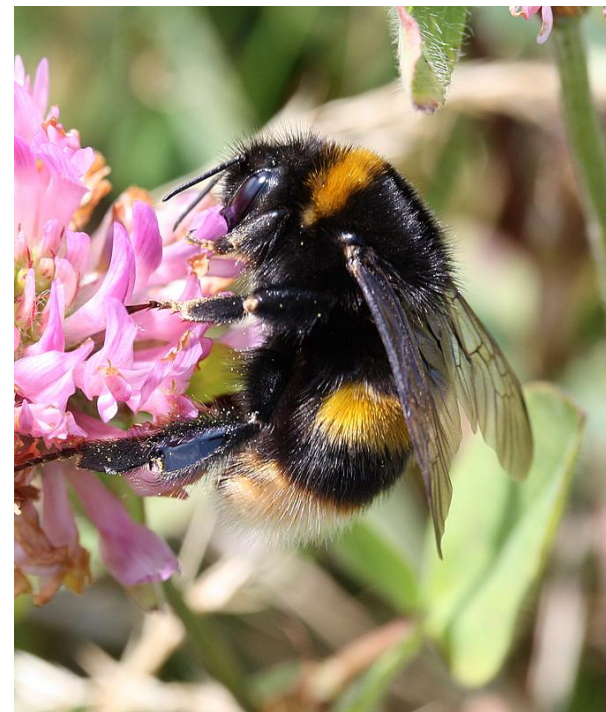
Buff-tailed Bumblebee

Bombus terrestris

- Queen: a large bumblebee with dull yellow band on the first thoracic segment (collar), a dull yellow band on the second abdominal segment and buff tip to the abdomen.
- Worker: a medium sized bumblebee with banding as in the queen, but less dark. The tail is whiter making it difficult to separate this species from *B.lucorum*.
- Male: similar to worker.

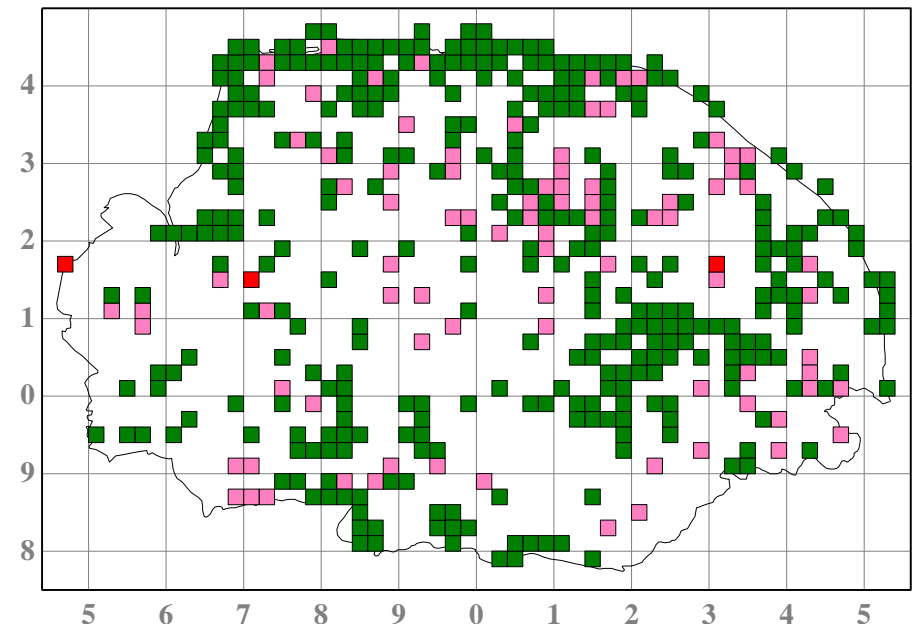
Widely distributed throughout the county. Empty 10km squares in South Norfolk and Breckland reflect a lack of spring visits and so no sightings of the distinctive queen. Workers cannot be reliably separated from *B.lucorum*.

Recorded from a wide range of habitats including sea bank, chalk grassland, marshes, woodland, disused railway, roadside verge and gardens. Queens have a slow ponderous flight with characteristic heavy drone. They nest underground frequently utilising old burrows of small mammals. It is one of the most common species in southern Britain and has a range extending throughout England and Wales and has now reached Orkney and Shetland.



Queen Weybourne Nick Owens

Bombus terrestris



White-tailed Bumblebee

Bombus lucorum

- Queen: a large bumblebee with lemon yellow collar, yellow band on second abdominal segment and white tip to abdomen.
- Worker: a medium sized bumblebee with banding as in queen. Difficult to distinguish from *B.terrestris*.
- Male: Yellow hair on face, and usually a large amount of yellow on the thorax and abdomen with a white tail

Widely recorded throughout Norfolk with distinct recorder bias to the north of the county. A typical bumblebee of heathland locations, often seen on gorse, but recorded from a wide range of other habitats including urban locations, farmland, green lanes, woodland rides and gardens. Nest sites are underground.

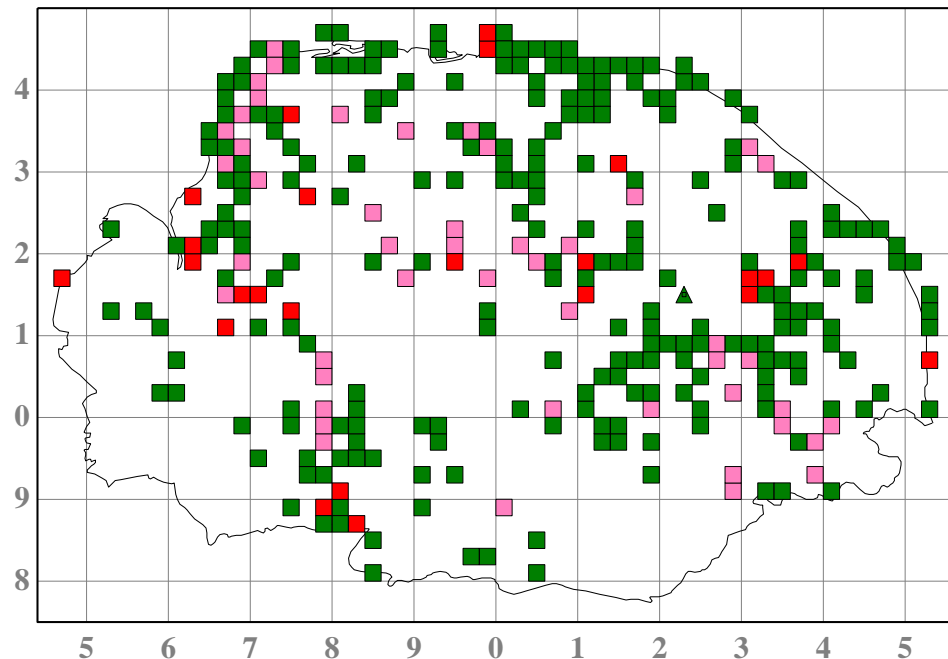
This species is under recorded in the south of the county because of limited recording activity and the difficulty of separating workers of this species from those of *B.terrestris*. Queens and males are usually distinctive. The species extends throughout Gt Britain being overlapped in the north and west by the related *B.magnus*, which occurs in more exposed habitats. The very similar *Bombus cryptarum* probably occurs on Norfolk heathland.



Queen Weybourne & Male Swanton
Novers Nick Owens



Bombus lucorum



Garden Bumblebee

Bombus hortorum

Queen: a large bumblebee with yellow collar and scutellum, yellow band on first abdominal segment and white tip to abdomen. The yellow bands on scutellum and abdomen give the appearance of a double yellow band across the 'waist'. Melanistic (dark) forms occur with the appearance of the much rarer *B.ruderatus*.

Worker: a medium sized bumblebee with banding as in queen.

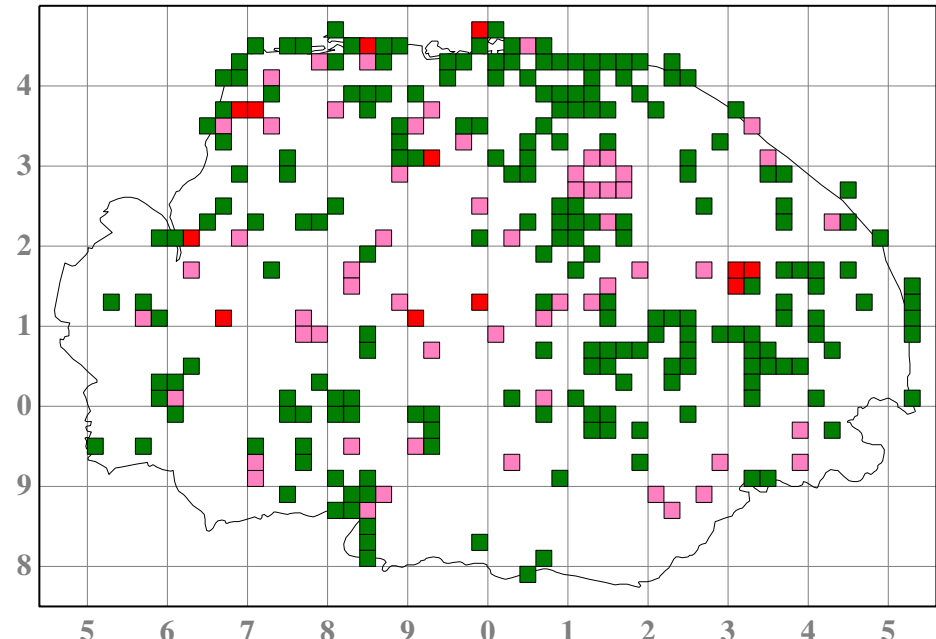
Male: similar to worker,

Widely distributed throughout the county, though not demonstrating the same intensity of tetrad distribution as *B.terrestris* or *B.lapidarius*, but this may reflect its preference for private gardens and woodlands rather than the open countryside. The bee is sometimes given the common English name of orchard bumblebee. It is a long-tongued species often found on foxgloves. Nests are usually placed among plant roots and litter just above or just below the soil surface. This species is quite late to emerge from hibernation and queens might not be seen until late April or May. It is found throughout the British Isles, extending to Shetland and the Outer Hebrides.



Queen Weybourne Nick Owens

Bombus hortorum



Red-tailed Bumblebee

Bombus lapidarius

Queen: a large bumblebee, all black except for a red tip to the abdomen.

Worker: a medium sized bumblebee with similar markings to queen. Black hairs on the pollen baskets of queens and workers distinguish this species from the much rarer *B.ruderarius* which has red hairs on the pollen baskets.

Male: a medium sized bumblebee with prominent yellow collar and red tip to abdomen. Male *B.lapidarius* has red hairs on its legs leading to possible confusion with *B.ruderarius*, but the greater amount of yellow should serve to identify *lapidarius*.

Widely distributed throughout Norfolk, except perhaps in the Broads and the Fens where wetter ground and shortage of hedgerow banks may restrict underground nesting opportunities. It has been recorded from chalk grassland, agricultural set-aside, roadside verges, woodland edges, gardens, cliff tops, sea banks and sand dunes.

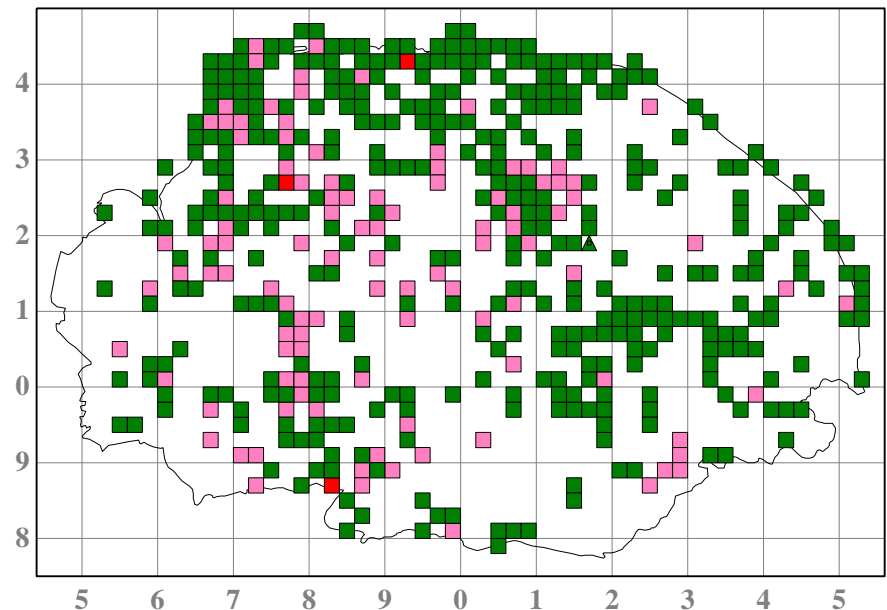
It occurs throughout England and Wales and on the east coast of lowland Scotland.



Queen & male both Weybourne
Nick Owens



Bombus lapidarius



Early Bumblebee

Bombus pratorum

- Queen: a small bumblebee with yellow collar, yellow band on second abdominal segment, and red tail.
- Worker: a small bumblebee with banding as in queen, though with the yellow sometimes obscured or absent.
- Male: Yellow on face and top of head. Yellow bands extend under body. Red tail.

An early species with most records for the period May-July. Some queens from the first generation raise a second generation in the summer, leading to August records. *B.pratorum* uses a wide variety of nest sites above, on or below ground, and it is not uncommon for disused birds' nests to be occupied, particularly those in nest boxes.

In gardens the species seems particularly fond of cotoneaster, but has also been recorded foraging on sainfoin, forget-me-not, mignonette, red campion, herb robert, wood sage, lavender, bell heather, bramble, wild raspberry, snowberry, flowering currant, tree lupin, hawthorn and horse chestnut.

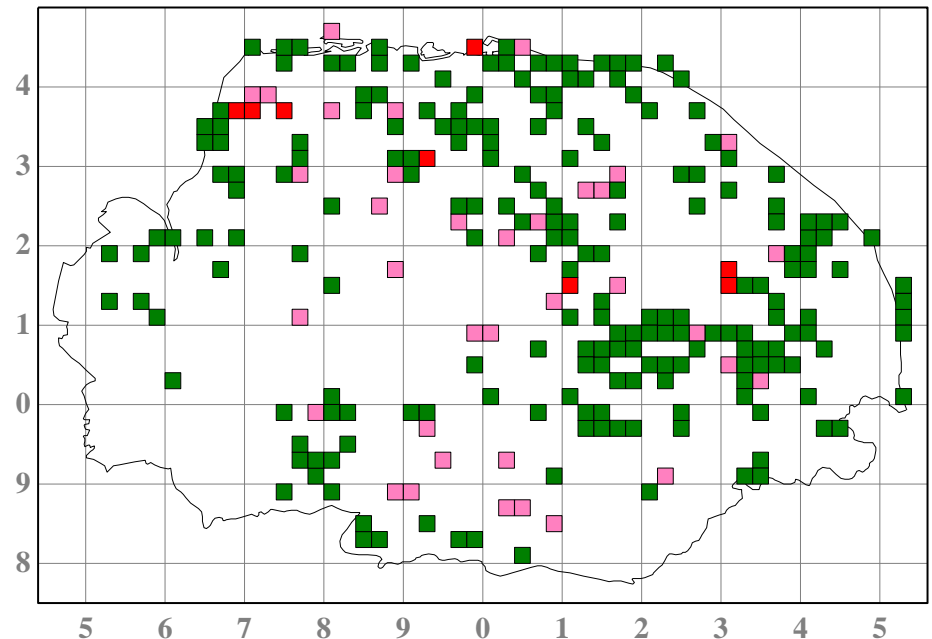
The species occurs throughout mainland Britain and is widely distributed and often abundant.



Queen Weybourne and male
Kelling Heath Nick Owens



Bombus pratorum



Common Carder Bumblebee

Bombus pascuorum

- Queen: a medium sized bumblebee with a long tongue and ginger thorax (with some black hairs showing through) and pale yellow abdomen (or blackish abdomen crossed by pale yellow bands).
- Worker: a medium sized bumblebee with ginger and black hairs on thorax, but often with a worn or faded appearance. Pale yellow banding on abdomen.
- Male: similar to worker

Widely distributed across Norfolk, one of a group of three ginger-haired species collectively referred to as carder bees because of their habit of combing together material from around the nest to form a covering for the cells.

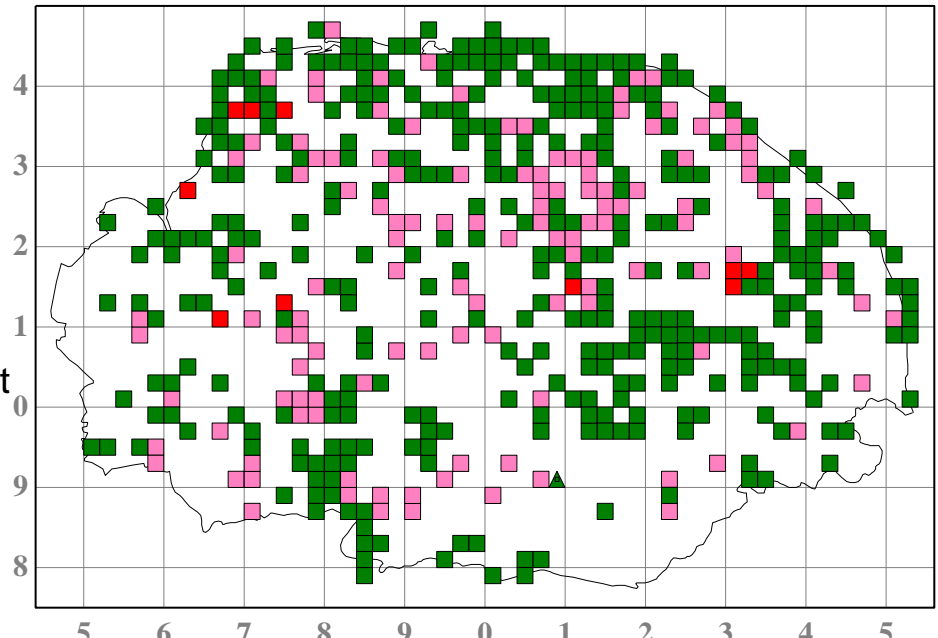
It is present in a wide range of habitats including clifftops, field margins, chalk grassland, heathland, scrub, marsh, disused railways, roadside verges, woodland, churchyards and gardens. Nests are built among vegetation on or just below the soil surface.

It is widely distributed throughout mainland Britain and Scottish isles except Shetland



Worker, Weybourne Nick Owens

Bombus pascuorum



Tree Bumblebee

Bombus hypnorum

Queen: a medium sized bumblebee with a ginger thorax and white tip to black abdomen
Worker: as queen
Male: similar to worker and queen, usually with brown hairs on upper abdomen

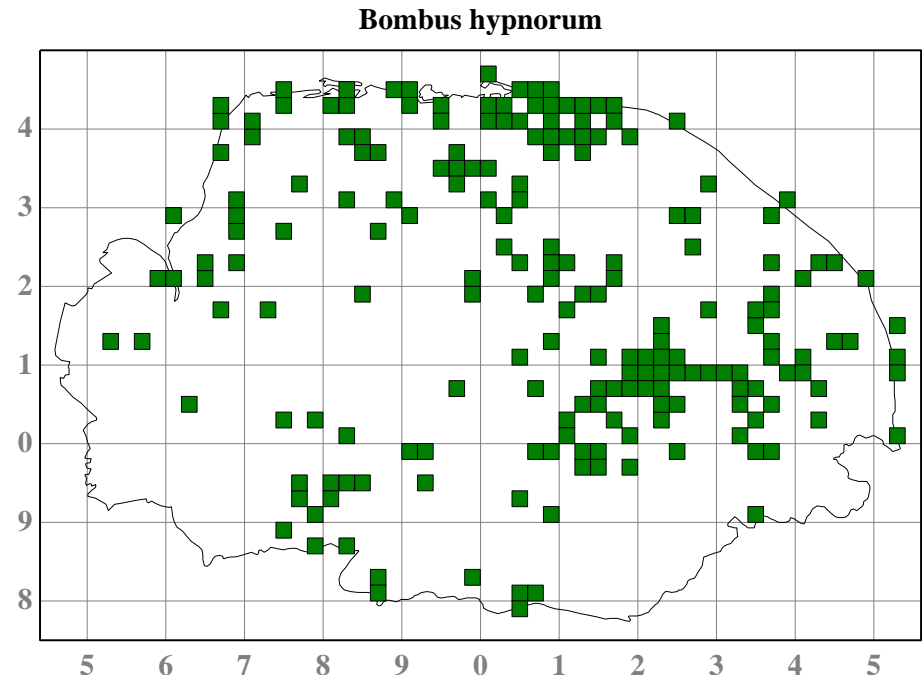
This species was first recorded in Gt Britain in 2001 subsequently spreading widely across the southern counties with a preference for urban environments such as parks and gardens.

It was first recorded in Norfolk in 2008 at Earlham cemetery, with subsequent records from a wide range of localities in the east of the county, extending into the west from 2011. It is now widespread across the county.

It nests above ground, typically in trees, earning it the vernacular name of Tree Bumblebee. It frequently nests in bird boxes or under the eaves of houses. It has extended its range to Ireland and parts of Scotland. First generations usually end by late June and there can be a second generation.



Queen Mousehold Heath Nick Owens



Five uncommon species

As an aid to identification, species are presented according to the colour bandings of the queen. They are presented in the following order: yellow-banded, red-tailed, and species with ginger thorax.



Large Garden Bumblebee *B. ruderatus*

Similar to *hortorum* and once believed to be a variant of that species.



Heath Bumblebee *B. jonellus*

A small heathland species, with double yellow band across the waist.



Red-shanked Carder Bumblebee *B. ruderarius*

Distinguished from *B. lapidarius* by red hairs on pollen baskets (*lapidarius* has black).



Bilberry Bumblebee *B. monticola*

A vagrant species first recorded in 2007.



Moss Carder Bumblebee *B. muscorum*

A coastal species, larger than *pascuorum* with denser hairs on thorax and abdomen.

Large Garden Bumblebee

Bombus ruderatus

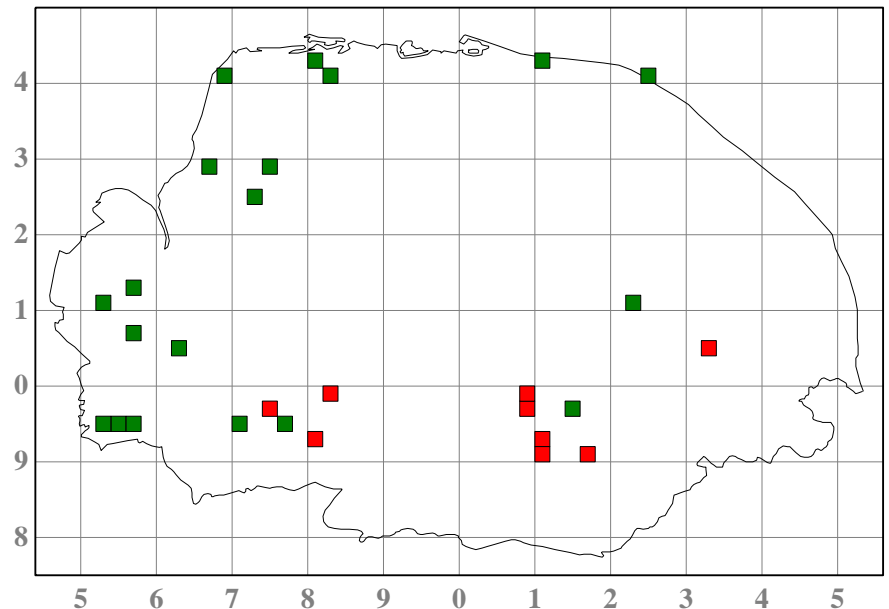
- Queen: in general appearance resembles a large *B. hortorum* queen, but the yellow bands on the thorax are often duller and narrower. The band on the scutellum is usually equal in width to that on the collar. The abdominal band is confined to the first segment. The tail is usually a dull off-white. Entirely black forms are quite frequent in all castes and also in all castes the thorax hair is short and even.
- Worker: a medium sized bumblebee with banding as in queen.
- Male: similar to worker but with long ginger hairs on mandibles.

This species is closely related to *B. hortorum* and is not readily distinguishable in the field. The amount of yellow is very variable. The tongue is very long. The Norfolk stronghold appears to be in the Fens where it was first reported by Owens in 2007. Away from the Fens there are records from Burnham Market (Saunders 2007), Overstrand (Owens 2014) and Kelling Heath / Weybourne (Owens 2016), Waterloo Park, Norwich (Crowther 2016) and Holkham (Owens, 2020).



Queen, Sheringham Park, male
black & yellow forms Norfolk
Fens Nick Owens

Bombus ruderatus



Heath Bumblebee

Bombus jonellus

Queen: a medium sized bumblebee with three yellow bands as in *B. hortorum* but that species has a long narrow face and a long tongue, whereas *B. jonellus* has a much rounder face and a short tongue. Hairs on pollen basket are red (black in *B. hortorum*). Darkened forms are frequent.

Worker: as queen.

Male: Yellow on head and collar extends under body

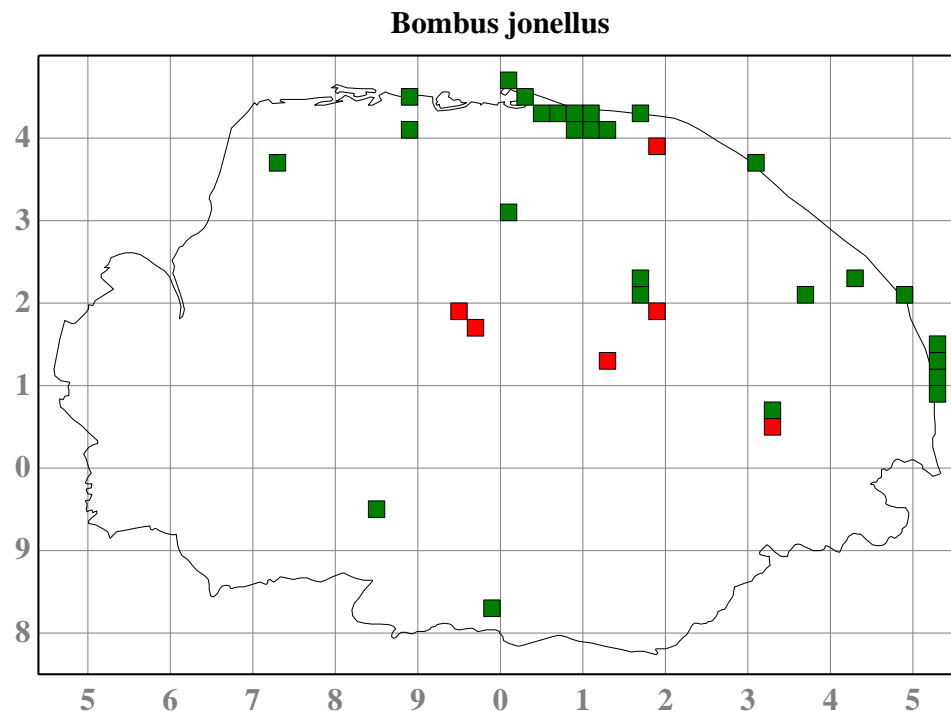


Queen Kelling Heath and male Blakeney Point
Nick Owens



This is generally regarded as a northern species with a preference for heathlands and moorlands, though there are also records from the south-east and south-west of Britain.

The Norfolk distribution has a coastal bias but it also occurs in the Broads and the Brecks and some other inland sites. It is absent from intensively managed farmland, but is not confined to heathland. There are two generations per year.



Red-shanked Carder Bumblebee

Bombus ruderarius

Queen: a medium sized bumblebee, all black except for a red tip to the abdomen. Red hairs of the pollen baskets distinguish this species from the much commoner *B.lapidarius*. Red tail is paler than in *B. lapidarius*.

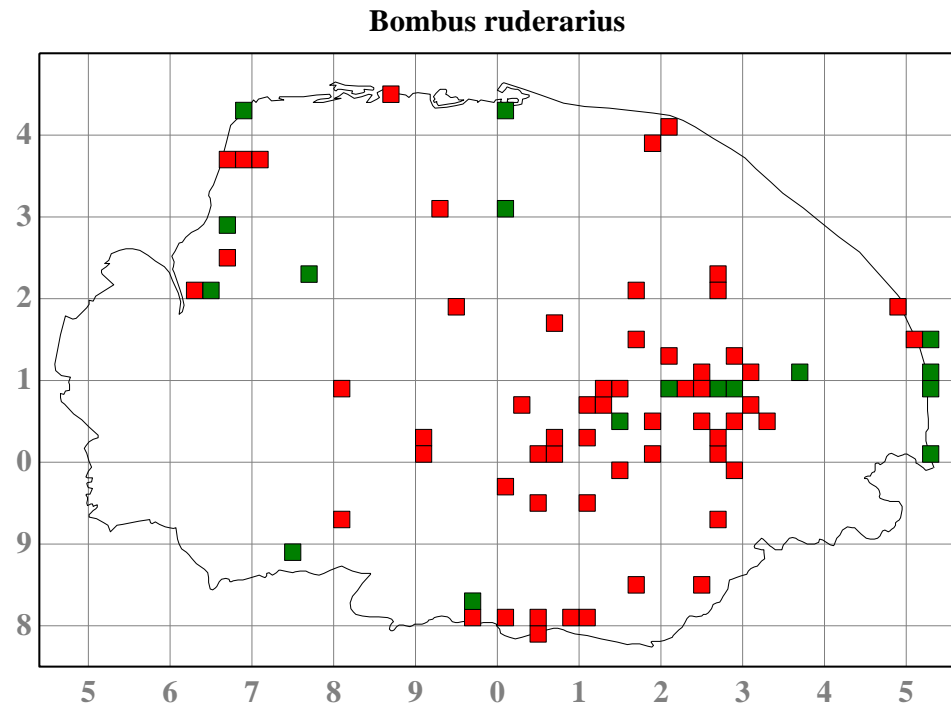
Worker: as queen.

Male: a medium sized bumblebee with small amount of yellow on the collar and red tip to abdomen. Red hairs on legs as in male *B.lapidarius* from which it is distinguished by the reduced amount of yellow on the thorax.

This species is probably under-recorded because of the difficulty of separating it from *B.lapidarius*. It was recorded at Thorpe St Andrews Business Park, Norwich, between 2000 and 2006, and refound there in 2014. Other 21st century records are from Wolferton (2007), North Burlingham (2007), Earlham cemetery (2009), the Brecks (2011), Morston (2012), Swanton Novers (2012) and Gaywood Valley, King's Lynn (2013), Gorleston & California cliffs (2019). Older records show the species was widely distributed across south Norfolk in 1961-4.



Worker Swanton Novers Nick Owens



Bilberry Bumblebee

Bombus monticola

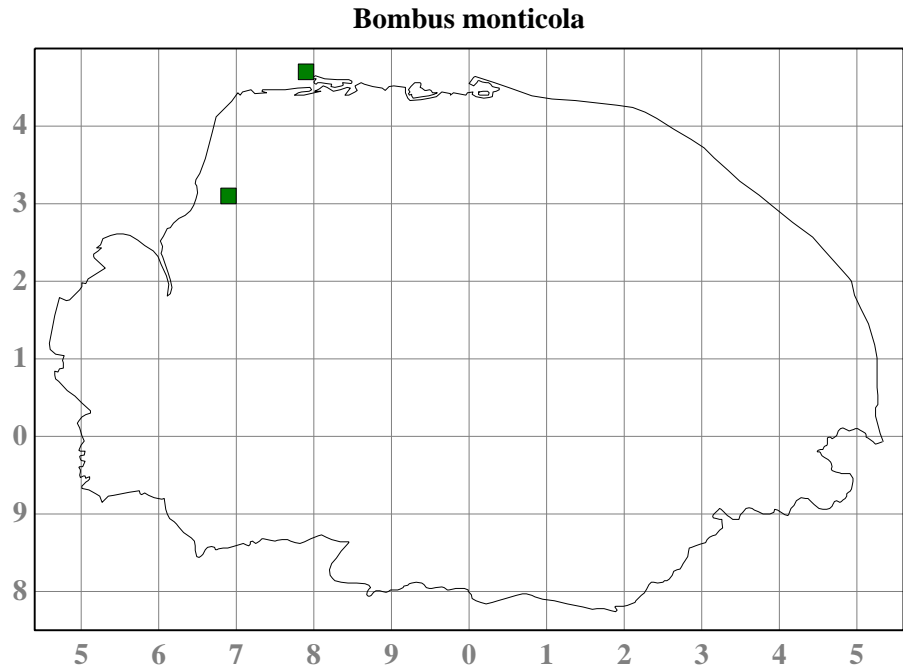
Queen: a medium sized bumblebee with a yellow collar and predominantly red abdomen.
Worker: as queen.
Male: similar to worker.

This is a species of upland moors in northern and western Britain, with a particular affinity for areas of bilberry.

It was added to the Norfolk list in 2007, when three males were recorded on Scolt Head NNR. In 2017 a fresh queen was photographed by Allan Drewitt in a garden in Dersingham. It was thought that the three males were likely to be vagrants, but the sighting of this queen raises the possibility that a relic population exists on west Norfolk heathlands.



Queen Dersingham Allan Drewitt



Moss Carder Bumblebee

Bombus muscorum

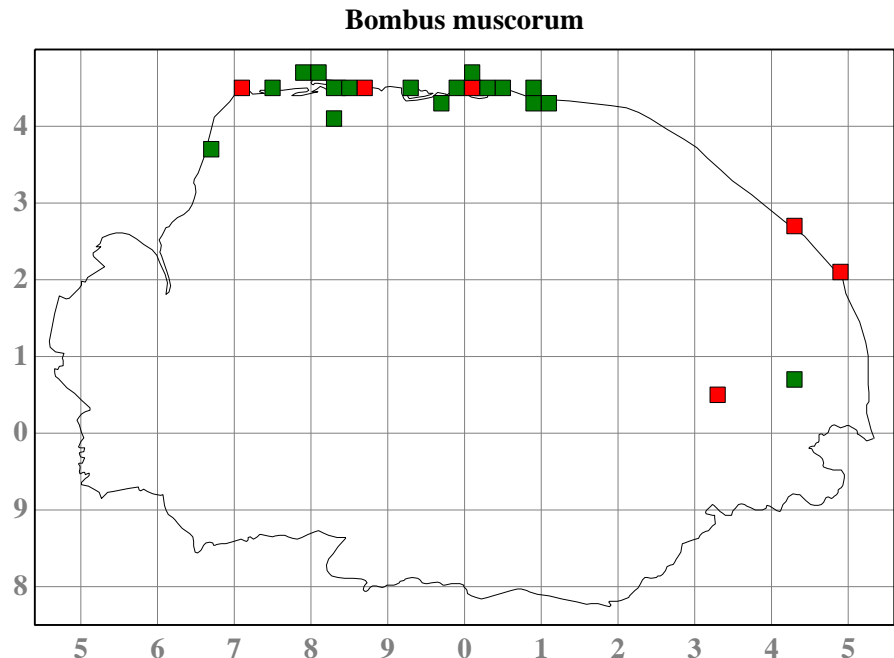
- Queen: similar to *B.pascuorum*, but larger and with a denser coat on both the thorax and abdomen. The thorax is ginger, and the abdomen yellowish ginger. The hair on the thorax is short and even
- Worker: as queen but smaller.
- Male: similar to worker.

This species is widely distributed around coastal and upland areas of Gt Britain, with strong colonies in the Hebrides, Orkney and Shetland.

In Norfolk it is now restricted to coastal locations with 21st century records from Scolt Head Island, where a thriving colony was reported in 2003 and 2018. It has been recorded foraging on field margins near Burnham Market (2007) and more recently, it has been recorded from Cley East Bank (2009), Weybourne (2009-12), Blakeney/Morston (2011-13), Titchwell (2011), Heacham (2012), Beeston Regis Common (2014), Burnham Norton (2015, 2018), East Hills (2019) and Halvergate marshes (2019). There are older records from Holkham (1968) and from the north-east coast between Sea Palling and Winterton (1963-4).



Worker Burnham Norton *Martin Greenland*



The six cuckoo bumblebees

Cuckoo bumblebees parasitise the nests of social bumblebees and do not have a worker caste of their own. They are presented in the same order as the host species described in section 1.



Vestal Cuckoo Bumblebee *B. vestalis*

Cuckoo of *B.terrestris*



Gypsy Cuckoo Bumblebee *B. bohemicus*

Cuckoo of *B.lucorum*



Barbut's Cuckoo bumblebee *B. barbutellus*

Cuckoo of *B.hortorum*



Four-coloured Cuckoo Bumblebee *B. sylvestris*

Cuckoo of *B.pratorum*



Hill Cuckoo Bumblebee *B. rupestris*

Cuckoo of *B.lapidarius*



Field Cuckoo Bumblebee *B. campestris*

Cuckoo of *B.pascuorum*

Glossary: collar – the colour band behind the head; scutellum – the colour band at the rear of the thorax

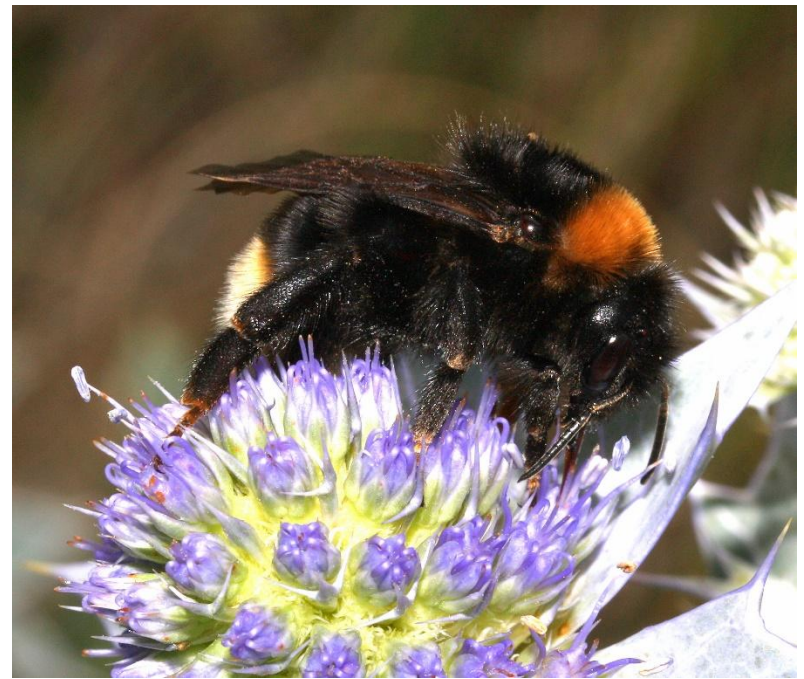
Vestal Cuckoo Bumblebee

Bombus vestalis

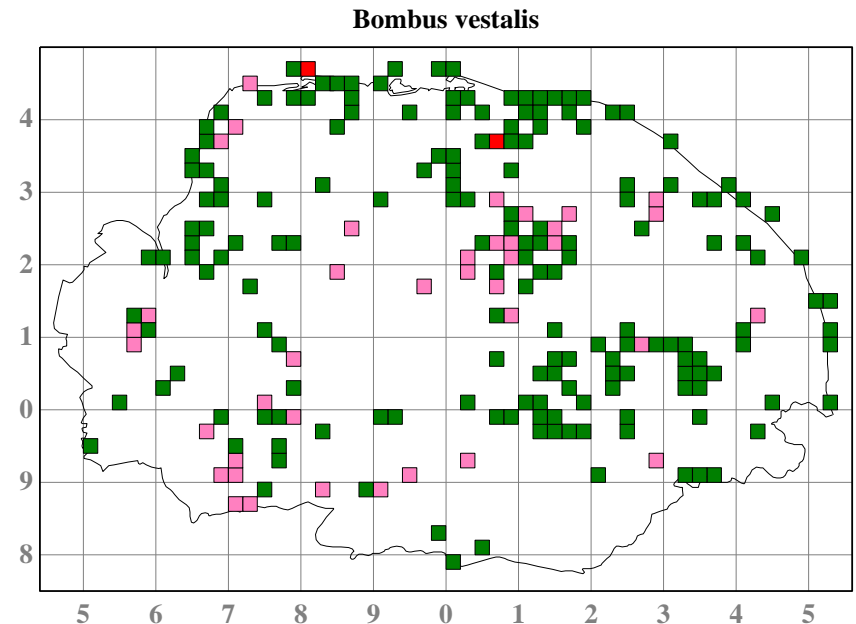
- Female: a large cuckoo bee with dull yellow collar, white tip to black abdomen surmounted by a broken yellow band.
- Male: smaller than the female and with similar patterning, except that there is some yellow on the scutellum and the yellow band across the tail is more complete.

This species is widely distributed across Norfolk. It has a soft droning flight, typical of cuckoo bumblebees. It is a species of woodland edges but has also been recorded from gardens, chalk grassland, agricultural set aside and green lanes.

Cuckoo bee females hibernate over winter and emerge in late spring after the social queens have established their nests. After feeding they seek out nests of their host species where they use the pollen/wax mixture from the cells of the host to create new cells in which they lay their own eggs. These are then reared by the workers of the host colony. The cuckoo has no pollen basket. *B. vestalis* is widely distributed across southern England and Wales, but is rare in the north. Its range is less extensive than that of its host species.



Female Blakeney Point Nick Owens



Gypsy Cuckoo Bumblebee

Bombus bohemicus

Female: similar to *B. vestalis* but slightly smaller and with paler yellow on thorax and abdomen. The hair on the thorax is short and neat.

Male: similar to *B. vestalis* male but with less distinct markings. In particular the yellow band across the tip of the abdomen is very pale.

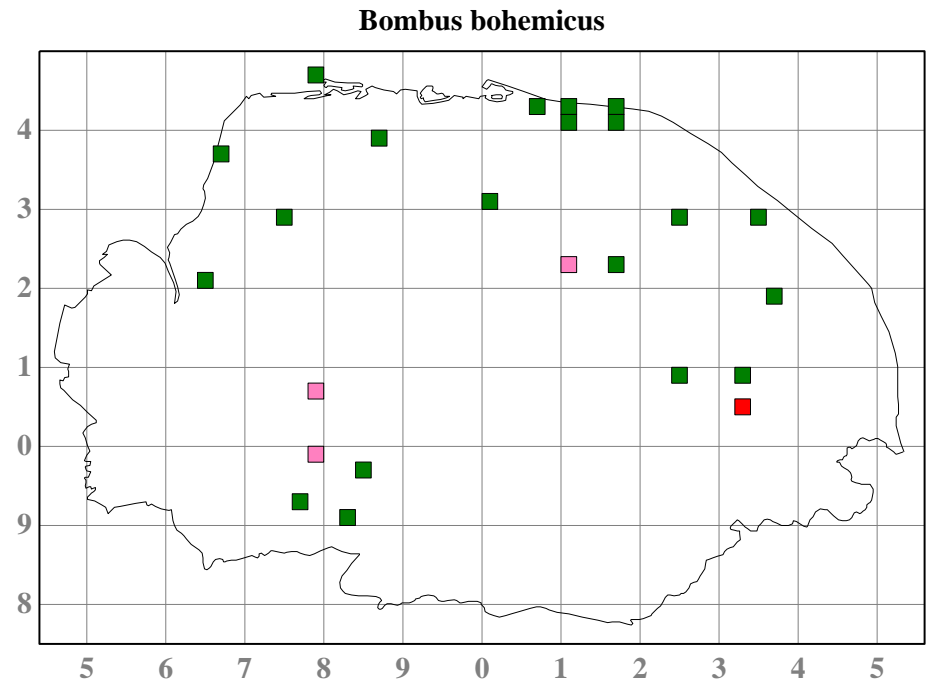
This species parasitises *B. lucorum*.

Sparsely distributed across the county with 21st century records from King's Lynn, Anmer, Heacham, Scolt Head Island, Weybourne, Beeston Common, Swanton Novers, Buxton Great Wood, How Hill, East Ruston, Upton, Norwich (Rosary Cemetery), Brundall and the Stanford Training Area.

It has a mainly northern and western distribution in Gt Britain.



Female Stanta Nick Owens



Barbut's Cuckoo Bumblebee

Bombus barbutellus

Female: a medium sized cuckoo bee with yellow collar and scutellum, yellow hairs on the upper abdomen and white tip to the tail.
Male: similar.

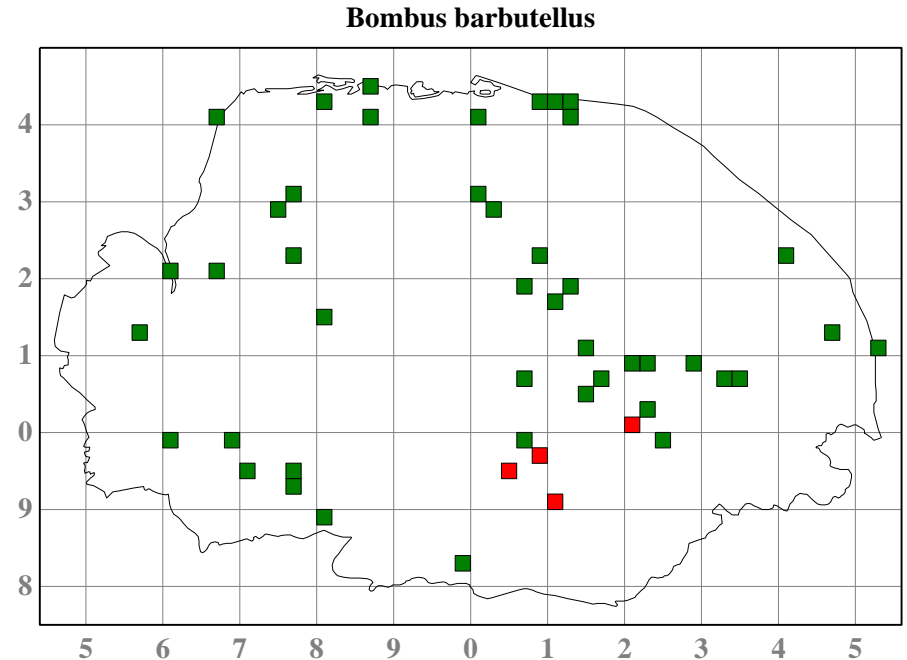
This species parasitises *B.hortorum*.

There are 21st century records from Methwold, Cranwich Heath, Castle Acre, King's Lynn, Hunstanton, Holkham, Langham, Bayfield, Weybourne, Sheringham Park, Swanton Novers, Weston Longville, Little Melton, Caistor, Thorpe St Andrew, Strumpshaw, Upton, Filby and Hickling. There have been more records recently, probably because of better recognition.

It has a patchy distribution across the whole of Britain.



Female, Swanton Novers Nick Owens



Four-coloured Cuckoo Bumblebee

Bombus sylvestris

Female: a medium sized cuckoo bee with dull yellow collar and white tip to abdomen. The tip of the abdomen is turned under the body and has a reddish tinge.

Male: a medium sized cuckoo bee with dull yellow collar. The abdomen can be white or yellow/brown but always has a small tuft of red hairs at the tip.

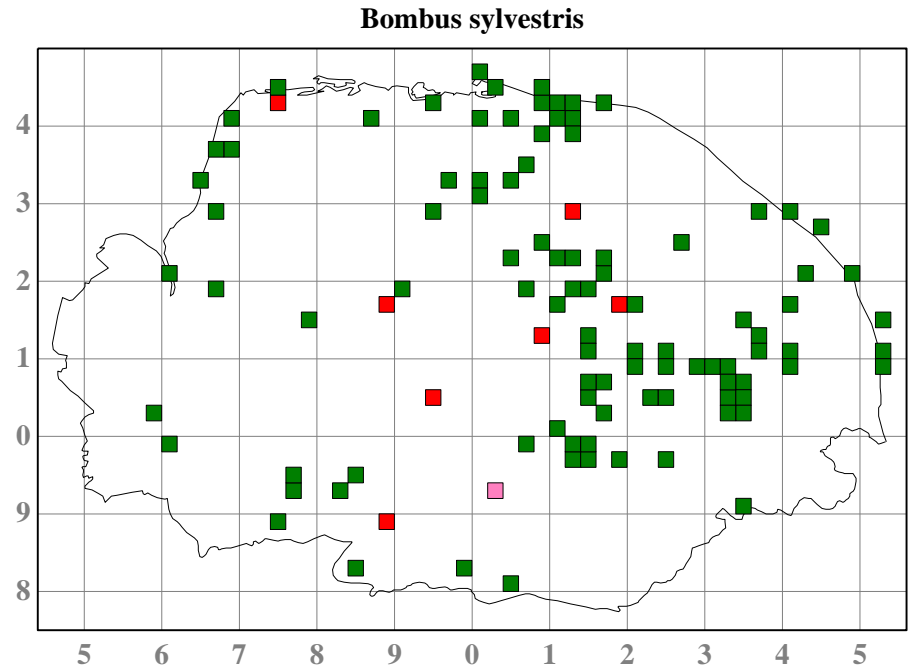
This species parasitises *B.pratorum*.

It is widely distributed across the county, being the second most frequently recorded cuckoo bumblebee in Norfolk. It has been reported foraging on dandelion, sowthistle, ground ivy, lavender, greater knapweed, bramble and thistle.

The species occurs throughout mainland Britain, extending to the very north of Scotland.



Female Kelling Heath Nick Owens



Hill Cuckoo Bumblebee

Bombus rupestris

- Female: very large, similar in appearance to *B.lapidarius* but has dusky wings with prominent veins. It is sparsely haired especially on the thorax and upper abdomen, which appear shiny.
- Male: similar to female but much smaller and with variable yellow bands

This species parasitises *B.lapidarius*.

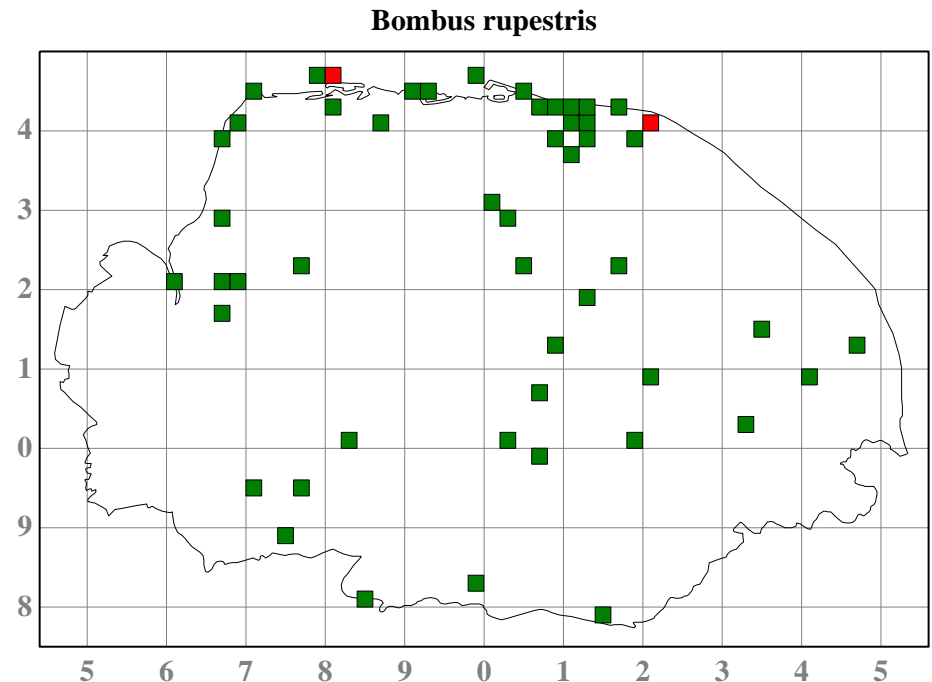
This species declined nationally in the 20th century but has shown a recovery in recent years.

In Norfolk, there have been 21st century records from Dersingham Bog, Scolt Head, Holkham, Kelling, Weybourne and Beeston Common; with a scattering of inland records including Buxton Heath, Swanton Novers, Hingham, East Tuddenham, Mulbarton, Cranwich, Weeting and Scole.

Prior to these, it had not been recorded in the county for over 40 years, the last 20th century record being at Weybourne in 1963.



Female Swanton Novers Nick Owens



Field Cuckoo Bumblebee

Bombus campestris

Female: a large cuckoo bee with dull yellow collar and scutellum, and brighter yellow tip to abdomen. The hair on the abdomen is very sparse.

Male: a medium sized cuckoo bee with yellow collar and scutellum, and yellow tail covering at least half the abdomen. Occurs in a range of forms from pale to very dark.

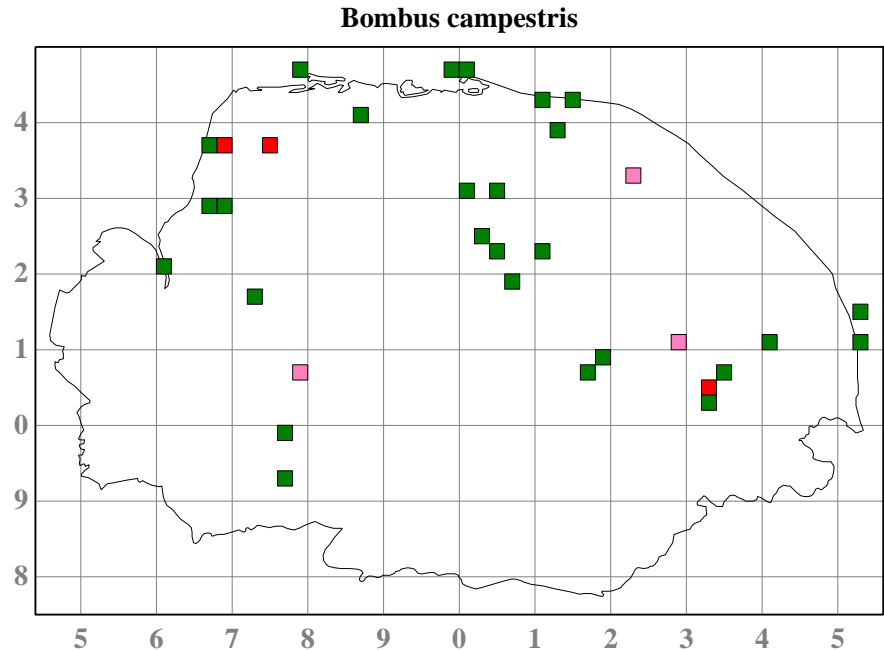


Pale and dark forms of male Swanton Novers *Nick Owens*

This species parasitises *B.pascuorum*.

There is a scattering of records across the county, but given the ubiquity of its host species it is probably under-recorded.

Nationally, it is present across the whole of Great Britain.





Checklist of Norfolk Bumblebees.

Print out this page to record your sightings of Norfolk Bumblebees.

Only the commonest and most easily identifiable are listed.

Bumblebees	Where	When
Buff-tailed		
White-tailed		
Garden		
Early		
Red-tailed		
Common Carder		
Tree		
Moss Carder		

Cuckoo bees	Where	When
Vestal		
Four-coloured		
Hill		
Field		

Confidently identified records should be sent to the county recorder
(contact details in the 'recording' section of this website). Please give:
species name, grid reference, location, comments, date, name of recorder

Photographs for possible confirmation are also welcome.