

The Brown-banded Carder Bee *Bombus humilis* Illiger, 1806 in Worcestershire.

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Introduction

The Brown-banded Carder Bee is an uncommon species associated closely with tall, open grasslands with abundant perennials, particularly Fabaceae, Laminaceae, Scrophulariaceae, knapweeds and Red Bartsia. Queens emerge during May and early June and establish nests on the ground among the tall vegetation. They prefer the top of the nest to receive direct sunshine and they may use old mouse nests as a base. The workers emerge between June and September and usually number only 50 -100 per nest whilst males appear during August and September.

Benton (2006) says “the species has been showing a marked decline nationally and currently it occupies coastal sites along the south coast, the south west peninsula, south and west Wales and the eastern Thames estuary and a small number of inland sites, most notably Salisbury Plain”. The Bees, Wasps and Ants Recording Society *Provisional atlas of the aculeate Hymenoptera of Britain and Ireland* (Edwards 2002) shows a similar distribution during the later years of the last century and into the present one. However, in the first half of the 20th century it showed the bee to be present at many more sites, both coastal and inland, well into the north of England. The latest information comes from Steven Falk in his *Field Guide to the Bees of Great Britain and Ireland* (2015) where he notes that there is now some evidence of a recovery in the Midlands. Do the Worcestershire records support this contention?

Worcestershire Records

The earliest bumblebee records come from J.E. Fletcher, a remarkable entomologist working in the mid to late 19th century, whose collections are currently housed in the Worcester City Museum. Amongst the many specimens of hymenoptera there are few bumblebees but no Brown-banded Carder bees. However, there are nine specimens of the Moss Carder Bee *Bombus muscorum* (Linnaeus, 1758) which is very difficult to separate from the Brown-Banded Carder Bee without microscopic examination so it is possible the some of these may have been misidentified. All were collected during the years 1876 to 1879 from Middleyard Copse, Worcester; Hallow, Worcester; Crown East Court, Worcester; Claphill Lane near Worcester; Monkwood near Worcester; Grimley, Worcester; and in his garden in Worcester. Fletcher wrote the insect section in volume 1 of the *Victoria County History* of 1902 but though he records several bumblebee species there is no mention of the Brown-banded Carder Bee.

Recent records held in the Worcestershire Biological Records Centre database and in my own database start from 1946 when Fred Fincher noted the bee at Randan Wood. There is then a gap to 1951 when nine records were noted in the *Transactions of the Worcestershire Naturalists Club* giving the location simply as “Malvern”. There was no recorder’s name provided and I assume that they were from a field meeting list. Also in 1951 John Meiklejohn recorded a single specimen at what was then the Worcester College of Higher Education. There follows a gap of no less than 47 years before more records are submitted. In 2008 the bee was recorded at Temple Laughern, Worcester and Sewage Works grassland Worcester by an FPCR ecologist and Andy Godfrey respectively. From here on reports come in with increasing frequency and are presented in table 1. (also see Westwood 2010). The question is whether the increased frequency of records reflects a genuine increase in the local population or whether it reflects increased recorder effort. Is the Brown-banded Carder bee more common in the 21st century than it was in the 20th bucking the general trend for most bees and other insects?

Table 1. Recent records of the Brown- banded Carder Bee

Year	Date	Site	Recorder
2008	22 nd August	Temple Laughern	FPCR ecologist
	22 nd August	Sewage works, Worcester, grassland	Andy Godfrey
2010	24 th June	Hartlebury Common	Brett Westwood
	9 th July	Wilden Marsh	Harry Green & Brett Westwood
	11 th August	Hartlebury Common	Brett Westwood (Westwood 2010)
	11 th August	Wilden Marsh	Brett Westwood
	12 th August	Burlish Top	Brett Westwood
	16 th August	Wilden Marsh	Rosemary Winnall
	28 th August	Wilden Marsh	Brett Westwood
	28 th August	Wilden Marsh	Harry Green
2011	19 th June	Wilden Marsh	Brett Westwood
	6 th August	Wilden Marsh	Brett Westwood
	6 th August	Wilden Marsh	Geoff Trevis
2012	9 th June	Red House, Staunton	Brett Westwood
	9 th June	Red House, Staunton	Harry Green
	9 th June	Red House, Staunton	Mike Averill
	1 st July	Wilden Marsh	Brett Westwood
2013	3 rd May	Townsend Way, Malvern	Andy Jukes
	21 st July	Wilden Marsh	Brett Westwood
2015	15 th June	Hill Court Farm	Simon Roberts
	11 th July	Rough Hill Orchard	Brett Westwood and Wendy Carter
	16 th July	Townsend Way, Malvern	Andy Jukes
	21 st August	Rough Hill Orchard	Harry Green
2016	18 th June	Upper Blackstone Farm	Brett Westwood
	6 th August	Old Hills, Callow End	Harry Green
	10 th August	Carpenter’s Farm, Berrow	Martin Skirrow
2017	20 th August	Devil’s Spittleful	Wendy Carter
	25 th August	Hartlebury Common	Rosemary Winnall
	2 nd September	Hartlebury Common	Rosemary Winnall

Several factors must be considered along side the probable increased recorder effort. The Brown-banded Carder Bee is not always easy to separate from the Common Carder Bee *Bombus pascuorum*, especially in faded specimens. It is possible, therefore, that *B. humilis* has been present but has been recorded as the Common Carder Bee. Separation from the Moss Carder Bee *B. muscorum* can also present a challenge in the field but as this species has not been recorded in Worcestershire since the 19th century it seems unlikely that any misidentification can have contributed to errors in estimating the Brown-banded Carder Bee population and distribution.

In the 1990’s Dr. Michael Archer and Colin Plant both spent several seasons surveying the hymenoptera of the Devil’s Spittleful and Hartlebury Common. Both are leading hymenopterists and as no records of the Brown-banded Carder bee appear on their species lists it seems almost certain that it was not present. Records first appear in 2010 at Hartlebury Common and in 2017 at Devil’s Spittleful which probably represent recent colonisation of these sites, supporting Falk’s contention that the species is experiencing a recovery.

Continuing recording will be needed to establish the status of *B. humilis* in Worcestershire and any records will be welcome. The main features to look for are the brown band on the second abdominal tergite (01, 02) and the absence of any black hairs on the abdomen (this needs a hand lens). Confusion is most likely with the Common Carder bee but this species has black hairs visible amongst the ginger ones on the abdomen.



01. *Bombus humilis* Hartlebury Common. Steve Falk



02. *Bombus humilis*, Wilden Marsh 16-8-2010. R. Winnall

References:

- Benton, T. 2006, *Bumblebees*, The New Naturalist Library, HarperCollins, London.
- Edwards, M, 2002, *Provisional atlas of the aculeate Hymenoptera of Britain and Ireland* Part 4, Published by the Biological Records Centre.
- Falk, S, 2015, *Field Guide to the bees of Great Britain and Ireland*, Bloomsbury Publishing.
- Westwood, B. 2010 *Bombus humilis*, the Brown-banded Carder Bee, in Worcestershire. *Worcestershire Record* 29:6-7.

Images

01. *Bombus humilis* Hartlebury Common. Steve Falk.
02. *Bombus humilis*, Wilden Marsh 16-8-2010. R. Winnall.