



An Introduction To British Garden Bee Identification

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Introduction

There are over 270 bee species in Britain ranging from the well known honey bee, to bumblebees and solitary bees. This guide aims to help introduce you to identifying some of the bees that you may find in your garden or local greenspace. Identifying and recording bee species enables scientists to see how these vital pollinators are faring and conserve them.

This guide is a work in progress and I welcome all feedback on how to improve it. Happy bee hunting!

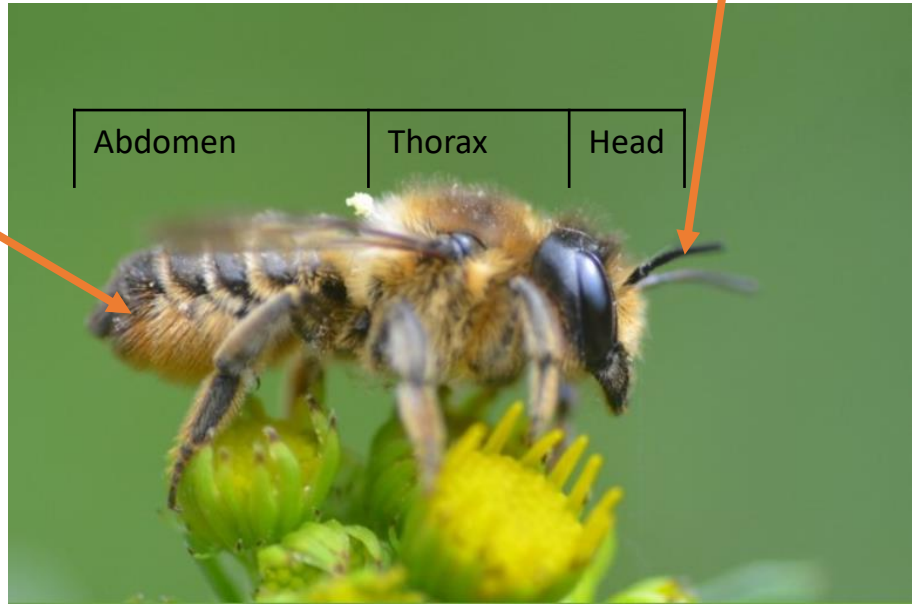
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Bee Morphology

Antennae

Pollen collecting hairs underneath abdomen (some bees)



Pollen collecting hairs on hind legs (some bees)





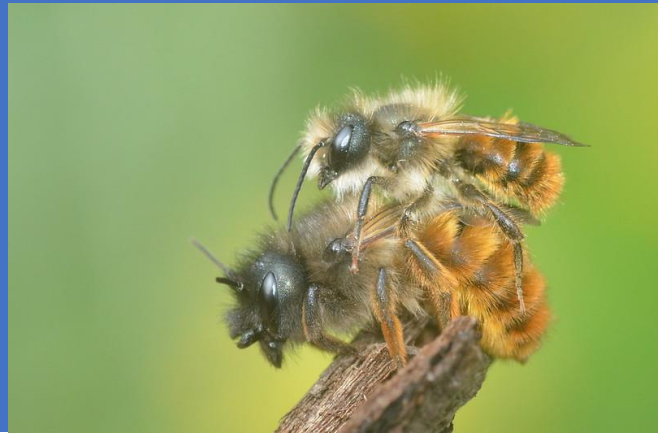
Photographing Bees

Many bees cannot be identified positively to species level from photographs alone, but the majority of the species that you may find in your garden can be. Here are some tips to increase your chances:

- Get a photograph of the bee from the top, this will show the overall colouration and shape of the bee
- Get a photo of the bee from the side, this will show features on the legs and underneath of the bee
- Pollen can often obscure the colouration of your bee, which can make it difficult to identify, if you can try and photograph bees that aren't carrying pollen
- For some bee species photos of the face of the bee are helpful
- Make a note of the kind of plant that the bee was visiting or its behaviour, this can help you establish what bee species you may have
- Sunny-cloudy conditions are best for bee spotting. Most bees will only come out in the sunshine but if it gets too hot then they will hide. On hot days it is best to look for bees earlier and later in the day when the temperature is cooler

Males and Females

- Males and females can look very different from each other!
- Very important for identification



Females	Males
<ul style="list-style-type: none">• Usually have pollen collecting apparatus• 12 antennal segments• Usually larger• Can sting• 6 tergites (abdominal segments)	<ul style="list-style-type: none">• No pollen collecting apparatus• 13 antennal segments, noticeably longer• Usually smaller• Cannot sting• 7 tergites (abdominal segments)

Confusion Groups

- Wasps
 - Bees are usually much hairier than wasps
 - Bees hairs are forked
 - Takes practice separating them though
- Hoverflies
 - Flies – big eyes, one pair of wings,
 - Bees – smaller eyes, two pairs of wings
 - Fly differently



Some bees are very wasp like



Some hoverflies (right two photos) are good mimics of bees (left two photos)

Identifying bees to genus level

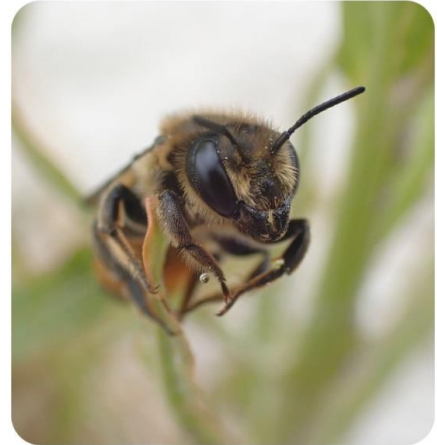
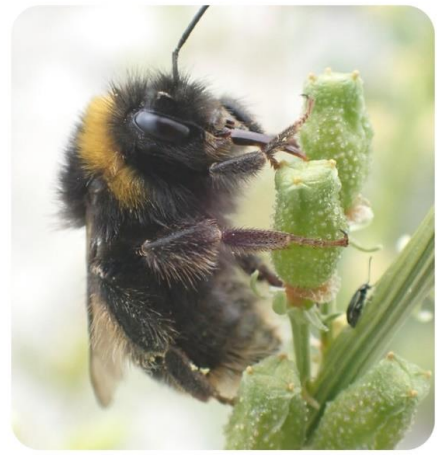
- Getting to genera level is a HUGE step towards species level identification
- The follow guide takes you through the different groups and their key features



The Genera

- Colletidae
 - **Colletes** – Plasterer Bees
 - **Hylaeus** – Yellow-faced Bees
- Andrenidae
 - **Andrena** – Mining Bees
 - Panurgus – Shaggy Bees
- Halictidae
 - **Halictus** – End-Banded Furrow Bees
 - **Lasioglossum** – Base-Banded Furrow Bees
 - **Sphecodes** – Blood Bees
- Melittidae
 - Melitta – Blunthorn Bees
 - Macropis – Oil-Collecting Bees
 - Dasypoda – Pantaloon Bees
- Megachilidae
 - **Anthidium** – Wool Carders
 - Stelis – Dark Bees
 - Heriades – Resin Bees
 - **Chelostoma** – Scissor Bees
 - **Osmia** – Mason Bees
 - Hoplitis – Lesser Mason Bees
 - **Megachile** – Leafcutter Bees
 - Coelioxys – Sharp-Tailed Bees
- Apidae
 - **Bombus** – Bumblebees
 - **Nomada** – Nomad Bees
 - Epeolus – Variegated Cuckoo Bees
 - Eucera – Long-Horned Bees
 - **Anthophora** – Flower Bees
 - Melecta - Mourning Bees
 - Ceratina – Small Carpenter Bees
 - **Apis** – Honey Bees

The genera highlighted in bold are the most commonly encountered groups found in gardens and are the focus of this guide



Family Colletidae

- Short tongued bees
- Usually with a bilobed tip
- Characteristically line nests with waterproof cellophane like substance
- Regarded as a primitive bee family



Colletes – Plasterer Bees

- Medium-sized (5.5 – 11mm long)
- Short, bilobed tongues
- Collect pollen on their hind legs
- Most species are restricted to light soils in which they nest
- Nine species found in the British Isles
- This group includes the ivy bee, *Colletes hederæ*, a recent arrival that is now widespread
- All species apart from *Colletes cunicularius* they all have banded abdomens
- Bees in this genus are attacked by cleptoparasitic bees of the genus *Epeolus*
- They are known as plasterer bees as they use a cellophane like substance to seal their nest
- Many are specialists on certain groups of flowers



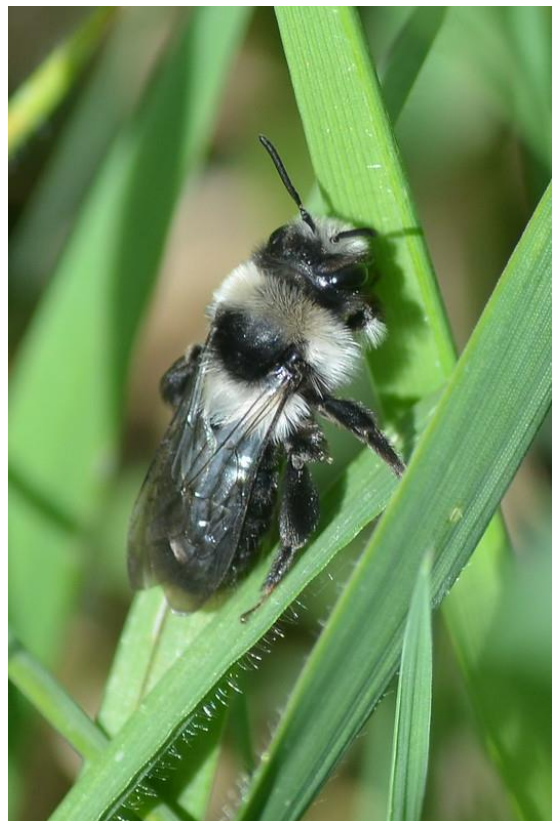
Hylaeus – Yellow-Faced Bees

- 12 species found in British Isles
- Mainly black and sparsely haired
- Swallow pollen and regurgitate back at the nest
- Primitive group of solitary bees
- Line nests with cellophane like structure like Colletes, this is secreted from abdominal glands
- Small 3.5 – 6mm predominantly black bees with white or yellow markings
- Hylaeus means 'of the woods'
- Nest in hollow stems / dead wood
- Males have more extensively marked faces



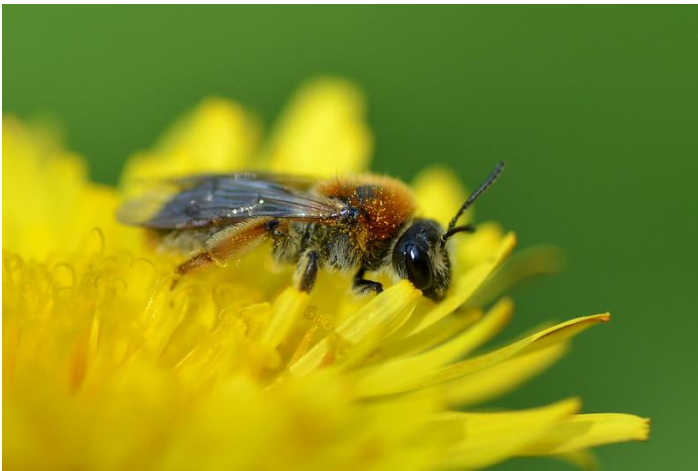
Family Andrenidae

- Large group of short tongued bees
- Collect pollen on hind legs



Andrena – Mining Bees

- 67 species found in British Isles (largest genus)
- Very diverse group! 6mm to 17mm long
- Ground nesting, often in large aggregations
- Have facial fovea (felt like lines of hairs on inner margins of eyes)
- Females much easier to identify than males in general
- Pollen is carried on all parts of the hind leg and the sides of the thorax



Facial fovea

- Can be tricky to see and more obvious on some species than others, but these are the short hairs you are looking for that make you know for sure that it is an Andrena



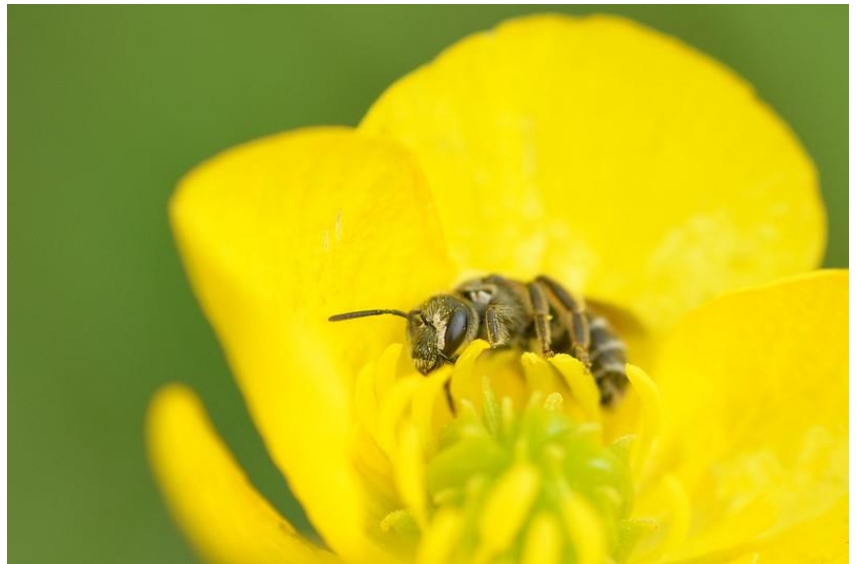
Family Halictidae

- Another group of short tongued bees
- Often called sweat bees as they're attracted to sweat in tropical countries



Halictus – End-Banded Furrow Bees

- 8 species found in British Isles
- Only 2 are relatively common and widespread
- May be solitary or social
- Ground nesting
- Indent at end of the abdomen
- Hair band position on the abdomen helps identify them.
Hind edge – Halictus, leading edge - Lasioglossum



Lasioglossum – Base-Banded Furrow Bees

- 34 species found in British Isles
- Ground nesting
- Indent at end of the abdomen
- Similar to Halictus
- Hair band position on the abdomen helps identify them.
Hind edge – Halictus, leading edge - Lasioglossum
- May be solitary or social



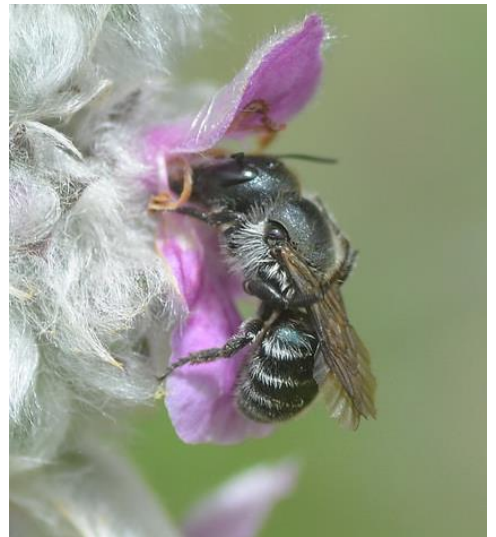
Sphecodes – Blood Bees

- 17 species found in British Isles
- Difficult to tell apart
- All pretty much look the same, black and red
- Males have knobbly antennae
- Cleptoparasites of ground nesting bees



Family Megachilidae

- Group of long tongued bees
- Most collect pollen on underside of abdomen



Anthidium – Wool Carders

- 1 species found in British Isles - *Anthidium manicatum*
- Use hairs from plants to build next
- Males larger than females and defend territories



Chelostoma – Scissor Bees

- 2 species found in British Isles
 - *Chelostoma campanularum* – a specialist on harebell flowers
 - *Chelostoma florissomne* – a specialist on buttercup flowers
- Aerial nesters
- Tiny but distinctive!



Osmia – Mason Bees

- 12 species found in British Isles
- Nest in interesting places
- Nest in variety of places including snail shells
- Uses mud or chewed leaves
- Pollen underneath abdomen
- 'Osmia' means odour or sense of smell, refers to the lemony scent with which they mark their nests
- Includes the red mason bee (*Osmia bicornis*), the most common bee hotel resident



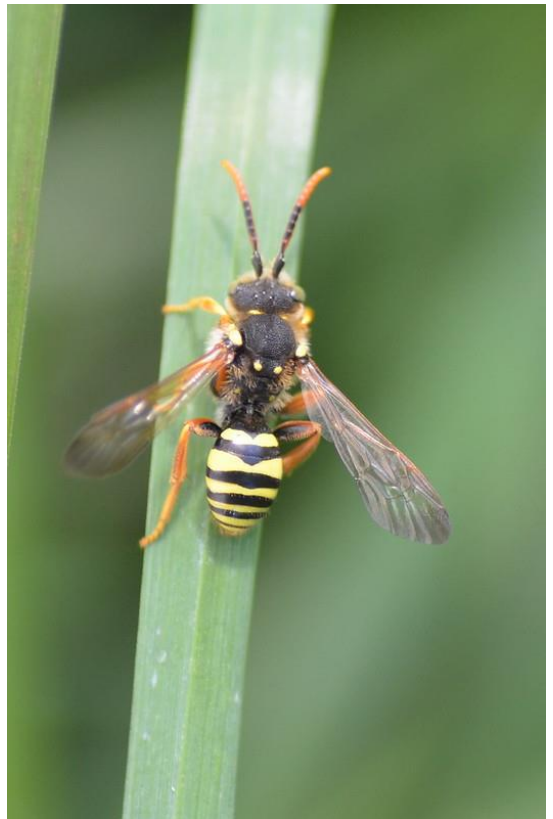
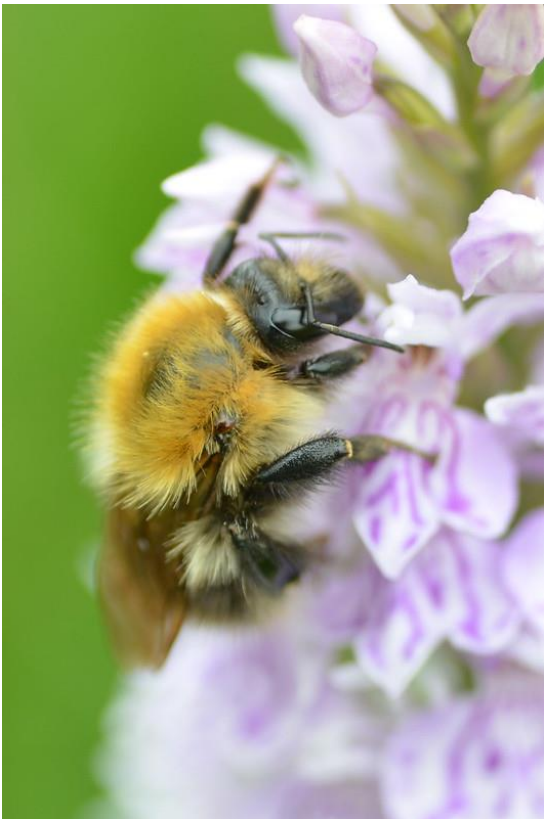
Megachile – Leafcutter Bees

- 7 species found in British Isles
- Many are aerial nesters
- Collect leaves to line nest
- Look stocky
- Relatively long tongue
- Pollen under abdomen
- Some males have expanded front tarsi (foot)
- Megachile means 'large-lipped' and refers to the huge mandibles



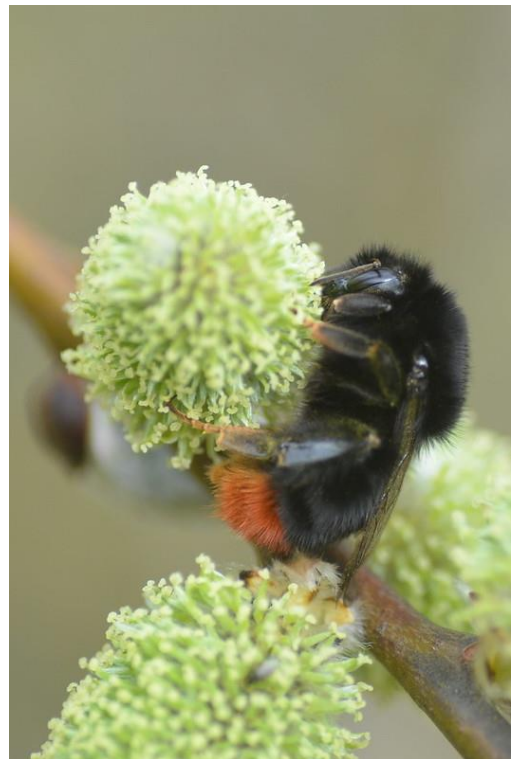
Family Apidae

- Group of long tongued bees
- Includes a number of cleptoparasites



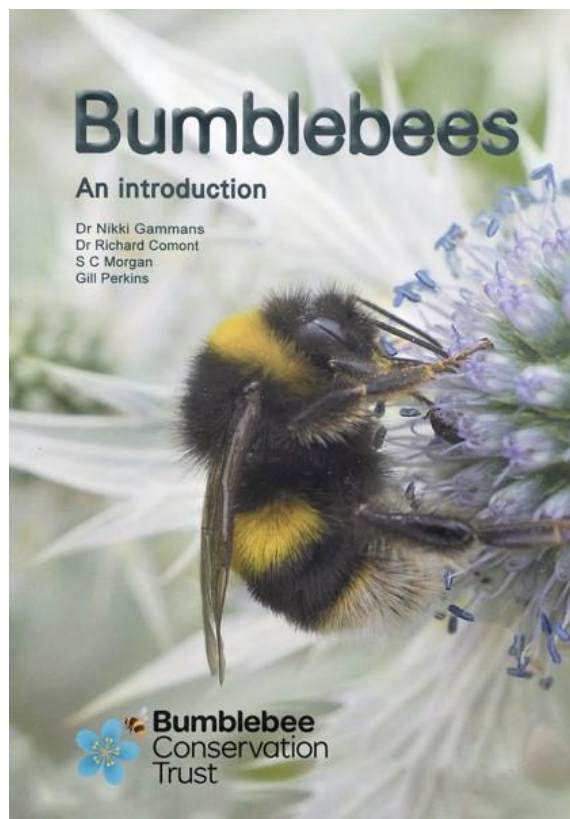
Bombus - Bumblebees

- 24 species currently in Britain
- Social
- Includes some cuckoo bees
- Big and chunky
- Usually fairly distinctive as a group



Identifying Bumblebees

- The species can be rather variable with males, workers and queens all looking slightly different in some species
- The vast majority of the bees you will see though are the ones known as the big 8, there is a [handy online guide to separate them here](#)
- 'Bumblebees: An Introduction' is a really good book to help identify which species you have and includes all bumblebee species in Britain



Nomada – Nomad Bees

- 34 species found in British Isles
- Cleptoparasitic, mainly on *Andrena* species
- Have very little hair and look wasp like



Anthophora – Flower Bees

- 5 species found in British Isles
- Long tongues
- Includes the 'hairy footed flower bee', *Anthophora plumipes*
- Anthophora means 'flower bearer'
- Often fly fast between deep tubed flowers



Apis – Honey Bees

- 1 species – *Apis mellifera*
- Domesticated species – colonies tend not to persist for long in the wild
- Variable but distinctive with practice
- Hairy eyes
- Unique pollen carrying apparatus



Recording Your Sightings

- Recording your sightings of wildlife is really important
- Garden bees are often a really under recorded group and you can contribute significantly to our knowledge of which species are found where and their ecology
- It is really easy to submit your sightings of wildlife to your local records centre or through iRecord
- You can find out more about how to go about recording wildlife in our [recorders handbook](#)

Submit your sightings through your local environmental records centre, or iRecord

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Finding Out More

- There are a number of books out there to help with identification. The best for beginners is the field guide to bees of Great Britain and Ireland, this is complemented by the authors [Flickr page](#)
- Bees in Britain is a free online guide available from the [Bees, Wasps and Ants Recording Society](#)

