

Bumblebee identification



What is a bumblebee?

- Furry
- Fat, round, large
- Buzzing
- Pollen baskets (females only)
- Stripes are on hair, not exoskeleton underneath



Wanna-bees!



Drone Fly *Eristalis pertinax*



Hover fly *Merodon equestris*

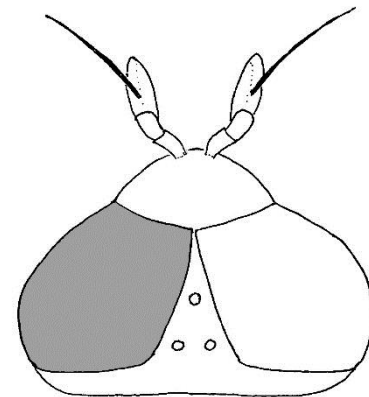
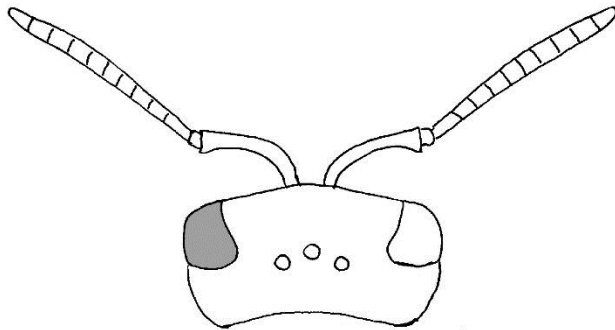


Bee Fly *Bombylius major*



Tachinid Fly, *Tachina ursina*

Wanna-bees!



Size

- Not very useful for bumblebees!
- 10-25mm long
- Queens biggest
- Workers, males c. 2/3rds queen size
- Size varies with nutrition



Getting started

- Start with queens in spring
- Good chance to become familiar with common species
 - few, if any workers
 - no males
- Generally don't vary much, and are relatively fresh and unworn

Queens

Queens from late Feb-March till Sept/Oct

- Biggest bees
- Often slow-flying, investigating holes or crawling through vegetation



Workers

Workers are usually smaller versions of the queens



Workers

Workers are usually smaller versions of the queens

— Separating Buff-tailed and White-tailed workers is not easy so we can record workers of these as being: Buff-tailed/white-tailed



Buff-tailed worker



White-tailed worker

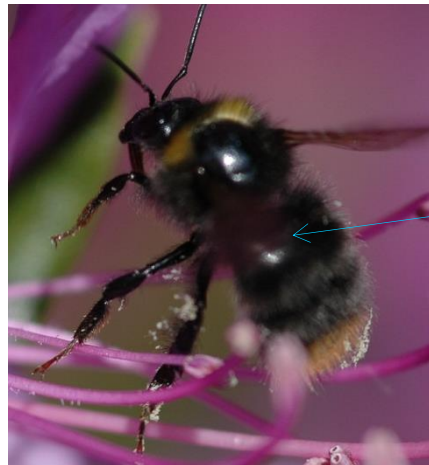
Workers

Workers are usually smaller versions of the queens

— Early bumblebee workers have a reduced or absent middle band



Early bumblebee queen



Early bumblebee
worker

Band is missing

Males



Males from late May/June for some early species, or in early years

- Often have more pronounced facial hair than females
 - Often yellow (esp: red-tailed, early, heath and white-tailed bumbles)
- Appear more yellow and ‘scruffy’ – furry & fuzzy
 - Extent of yellow varies a lot even in a single species

Males

Extent of yellow varies a lot even in a single species

White-tailed males



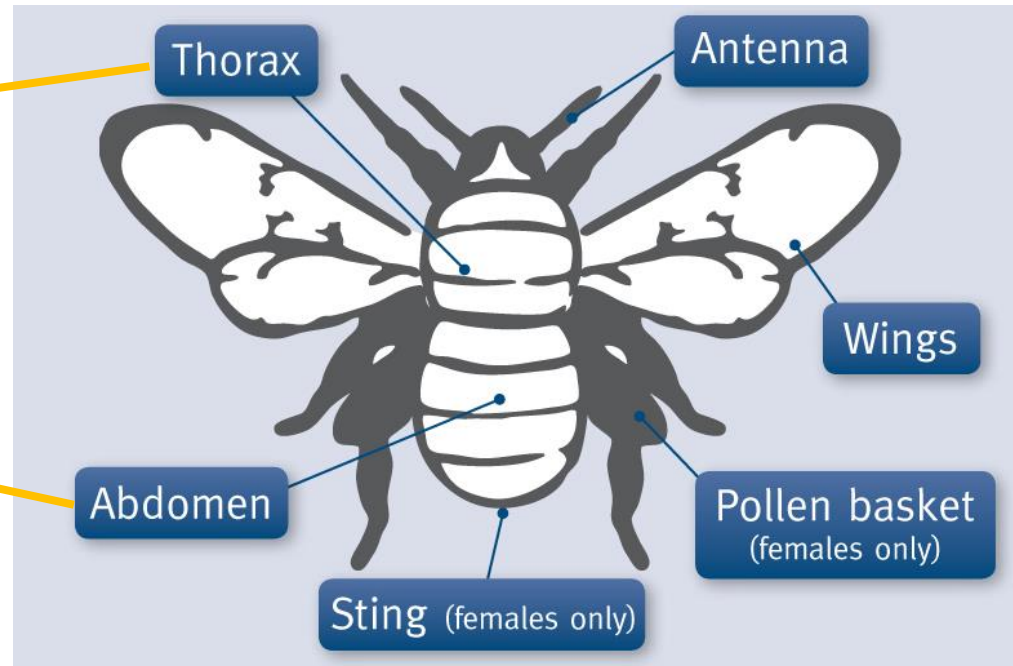
Cuckoo Bumblebees

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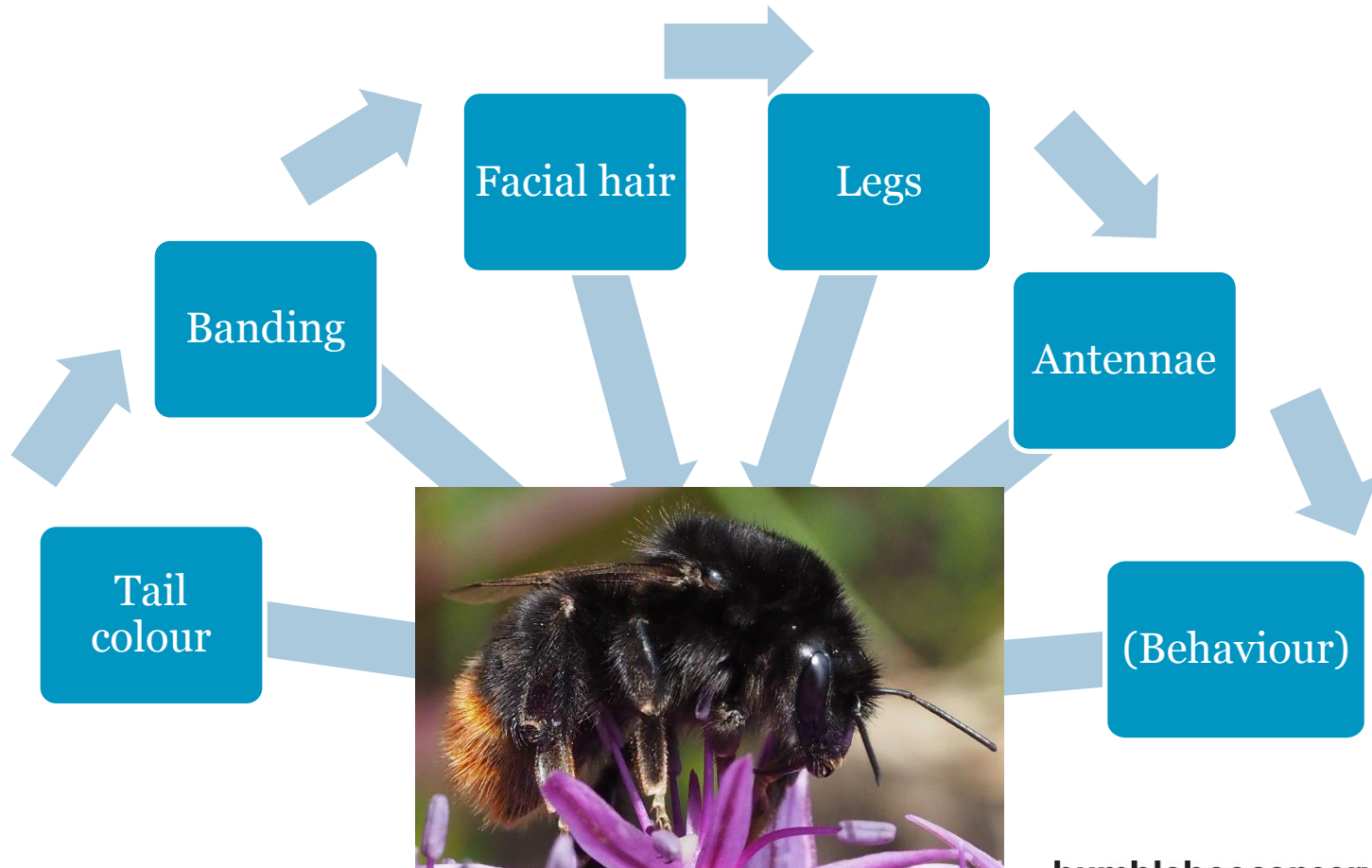
- Dark appearance – most females have just one yellow band, the collar
- No pollen baskets
- Sometimes have very dark wings
- Some species have a 'notch' in the white of the tail
- Later emergence than hosts



Getting started



Getting started



Tail colour

— Also look at extent and position of colouration



Banding

— Position

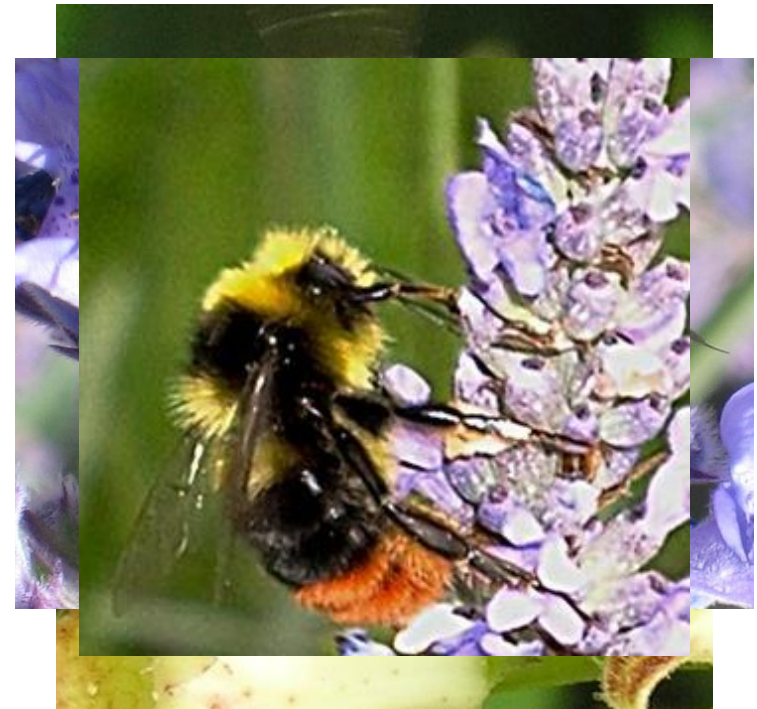


— Strength



Faces

- Surprisingly easy to see the hair colour on bumblebee faces
- Can be useful in separating males and females:
- Males of 4 of the 8 commonest species have yellow faces when the females have black faces
- Face shape is useful to separate some species



Legs

- Only female social bumbles (not cuckoos) will carry pollen loads



Legs

- Not always carrying pollen – look closely at hind leg for pollen basket

Step 1: Is it a social bumblebee or a cuckoo bumblebee?

Does it have pollen baskets on its back legs?

Yes =
social
bumblebee



No =
cuckoo
bumblebee



The pollen baskets are the shiny area at the top of the back legs



Social female



Social male



Cuckoo female

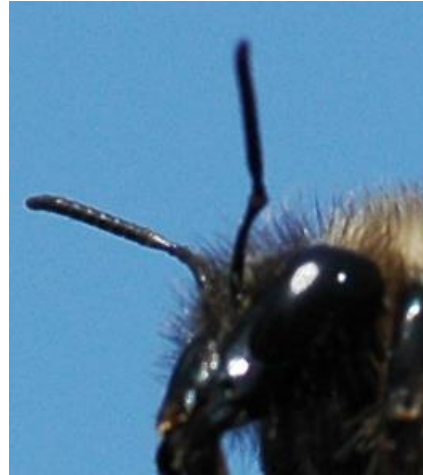


Cuckoo male



Antennae

- Females have short, 12-segmented antennae
- Males have long, 13-segmented antennae



Female



Male

Behaviour

- Useful for separating male and female social bumblebees & cuckoos
 - Female social bumblebees (queens & workers) tend to always be working
 - Queens will fly low when looking for nests
 - Males & cuckoos often lazily feed on flowers, slowly drinking nectar and not flying very much

The big six queens: common and widespread bumblebees



White-tailed
bumblebee



Buff-tailed
bumblebee



Garden
bumblebee



Early
bumblebee



Red-tailed
bumblebee



Common
carder bee

The big eight!

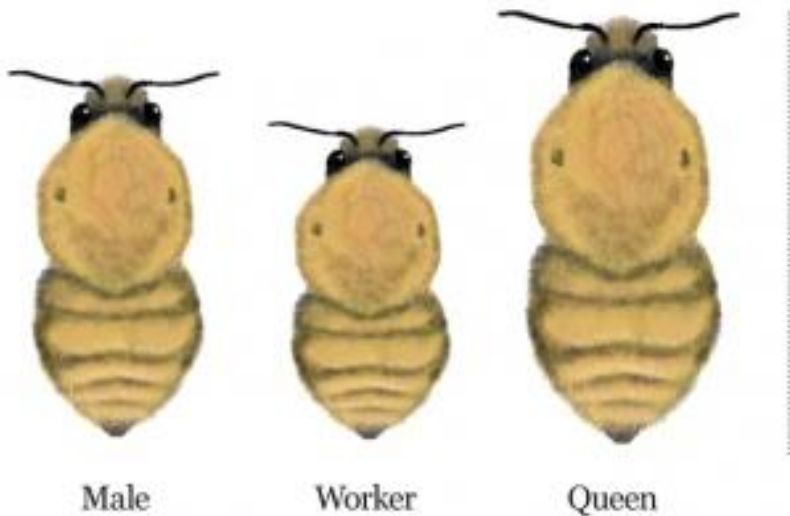
**Heath
bumblebee**

Tree bumblebee



	Ginger bees	Red-tailed bees	White-tailed bees
Common	<i>B. pascuorum</i>	<i>B. lapidarius</i> <i>B. pratorum</i>	<i>B. lucorum</i> <i>B. terrestris</i> <i>B. hypnorum</i> <i>B. jonellus</i> <i>B. hortorum</i>
Scarce / rare	<i>B. muscorum</i> <i>B. humilis</i> <i>B. distinguendus</i>	<i>B. monticola</i> <i>B. ruderarius</i> <i>B. sylvarum</i>	<i>B. ruderatus</i> <i>B. soroeensis</i> <i>B. subterraneus</i>
Cuckoo	<i>B. campestris</i>	<i>B. rupestris</i>	<i>B. vestalis</i> <i>B. bohemicus</i> <i>B. barbutellus</i> <i>B. sylvestris</i>

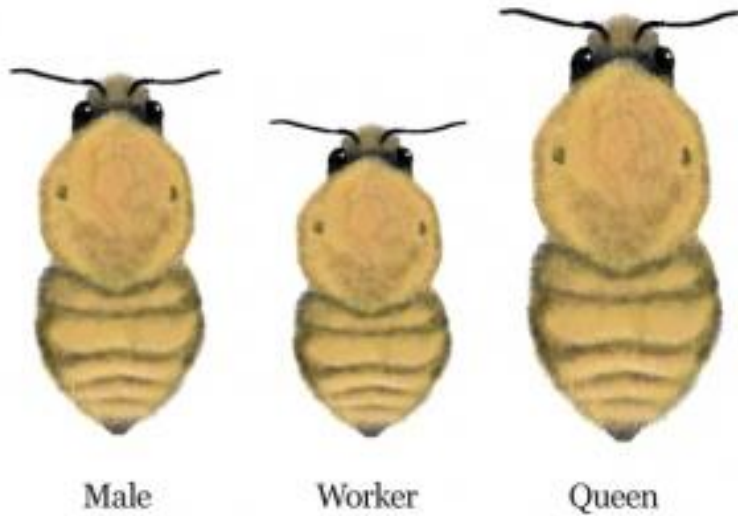
Ginger bees



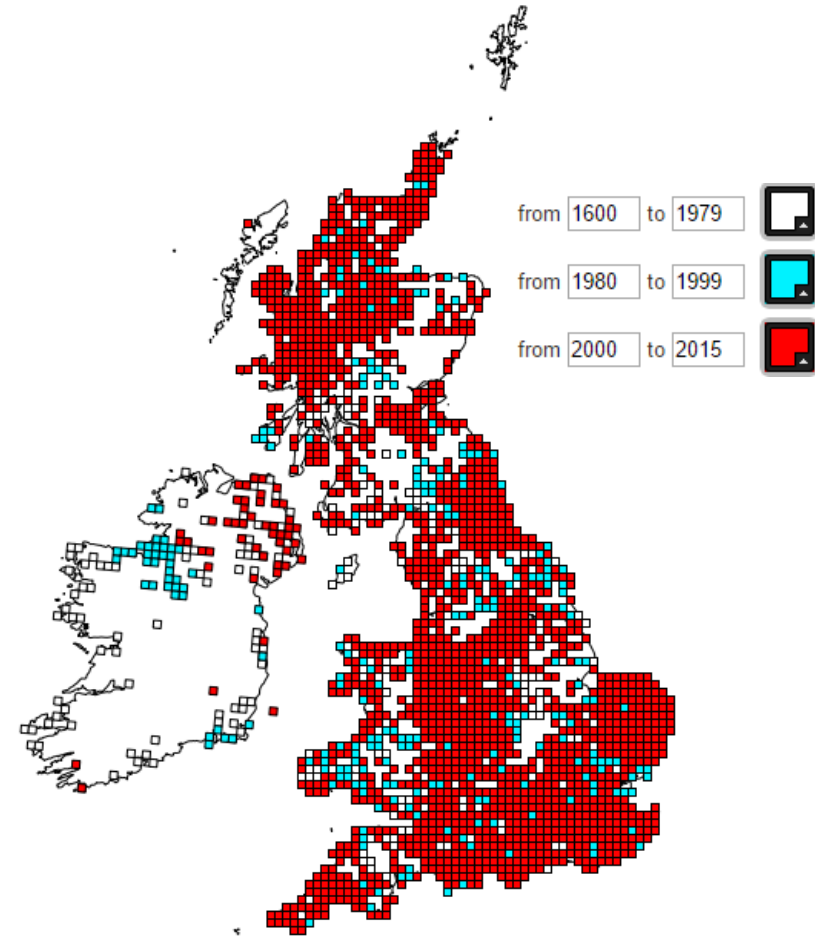
Common Carder
B. pascuorum

BEWARE: *B. distinguendus*, *B. muscorum*, *B. humilis*, *B. campestris*

Common Carder *B. pascuorum*



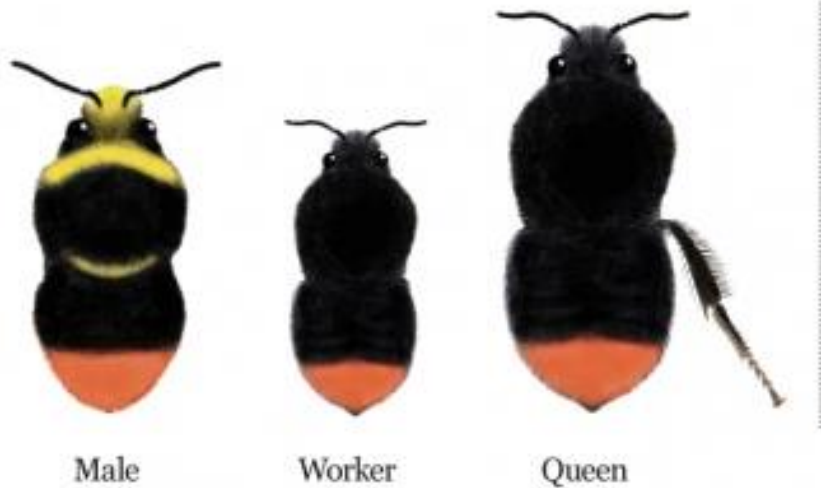
Ginger bees - common



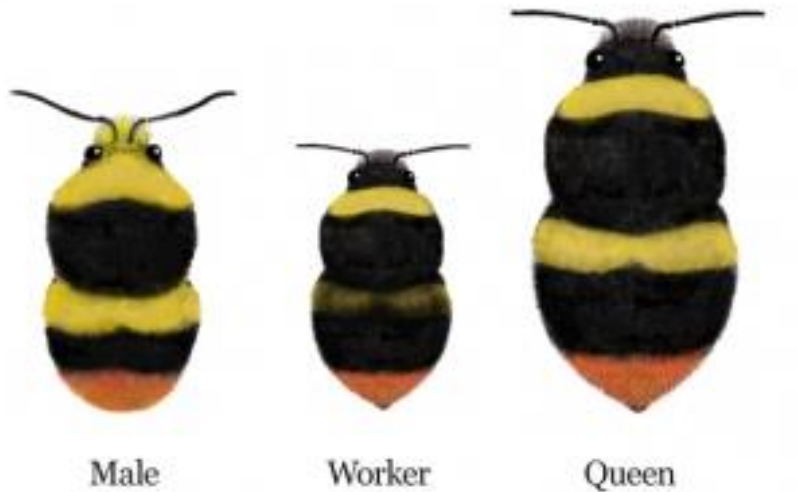
- All-ginger
- Black abdominal hairs
- Cream thorax sides
- Males yellower

SIMILAR: *B. muscorum*, *B. humilis*, *B. distinguendus*, *B. campestris*

Red-tailed bees

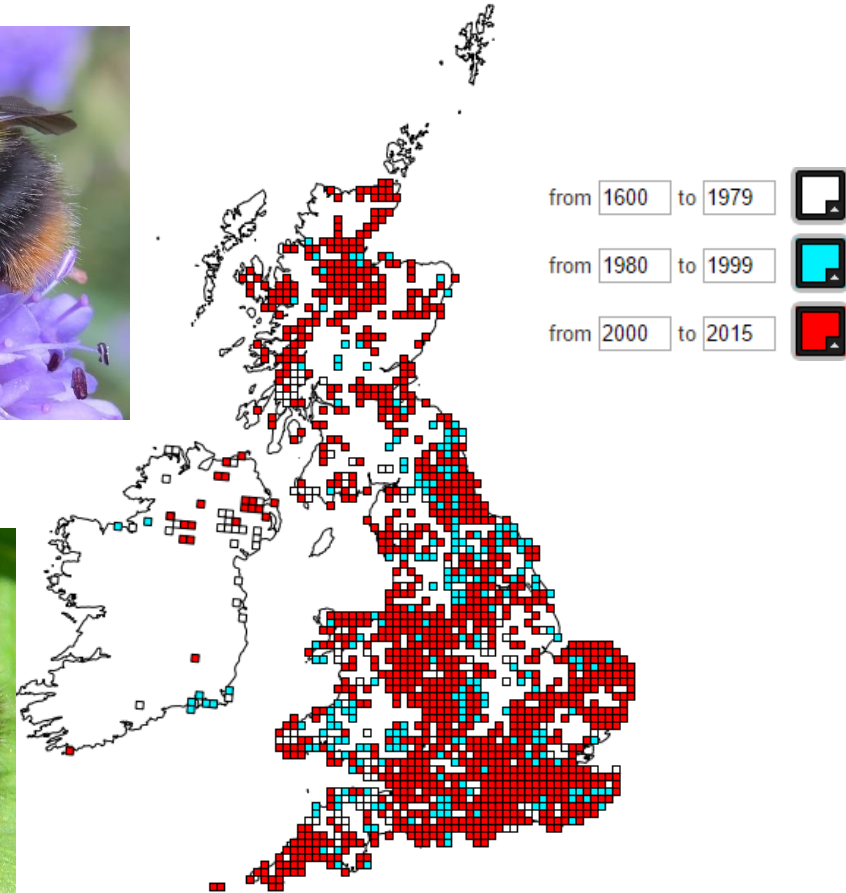
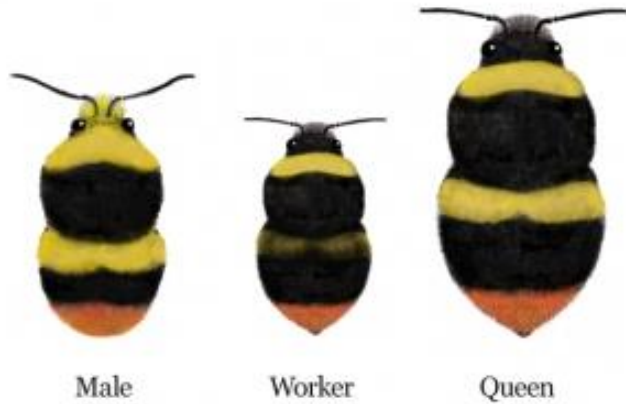


Red-tailed bumblebee
B. lapidarius



Early bumblebee
B. pratorum

Early bumblebee *B. pratorum*



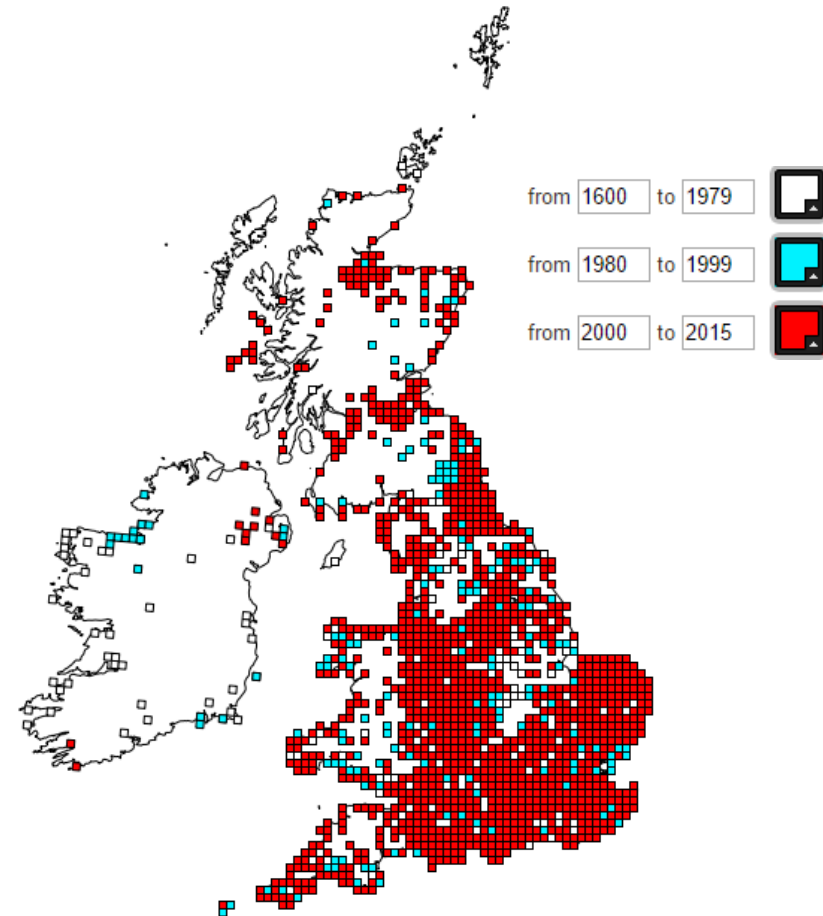
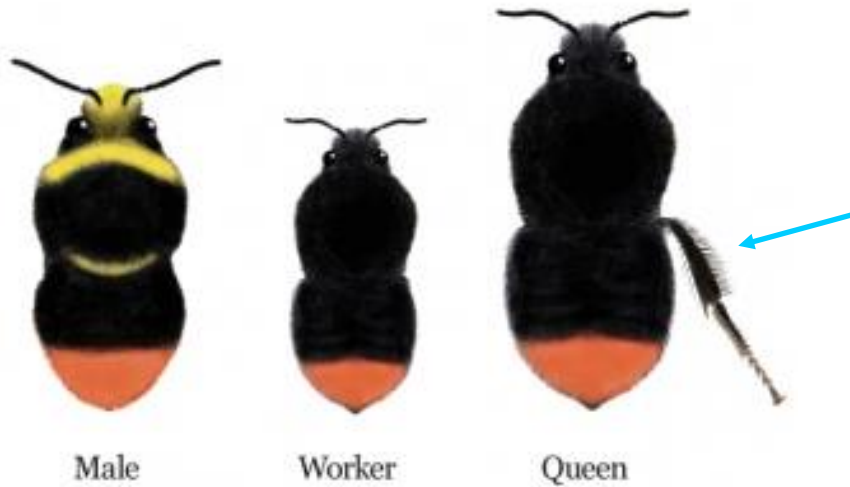
- Only common yellow-banded, red-tailed females
- Males have a yellow face
- Worker often loses abdominal band
- Tail often small, pale

SIMILAR: *B. ruderarius*, *B. monticola*, *B. sylvarum*, *B. rupestris*

Red-tailed bumblebee

B. lapidarius

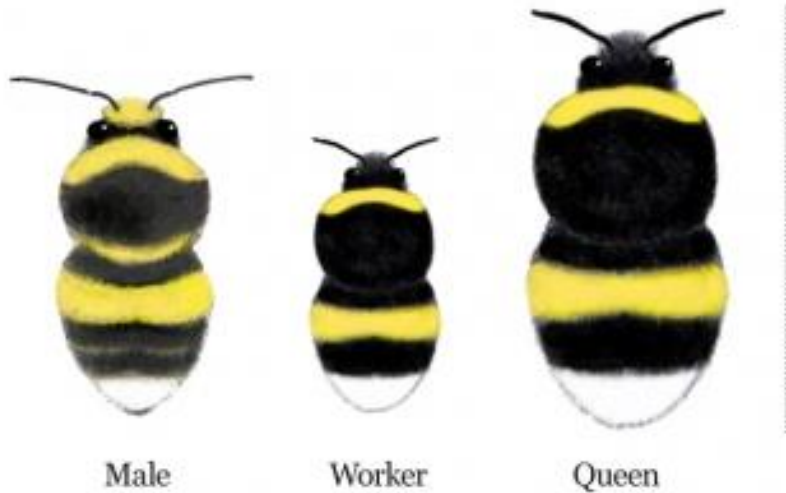
Red-tailed bees - common



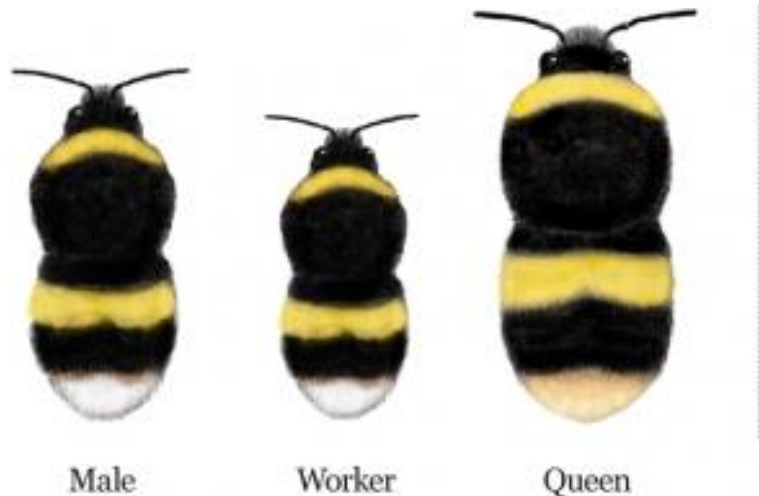
- Elongate species
- Males have a yellow face
- Tail red, up to half the abdomen
- Female corbicula hairs black

SIMILAR: *B. ruderarius*, *B. monticola*, *B. sylvarum*, *B. rupestris*

White-tailed bees: 2 yellow bands



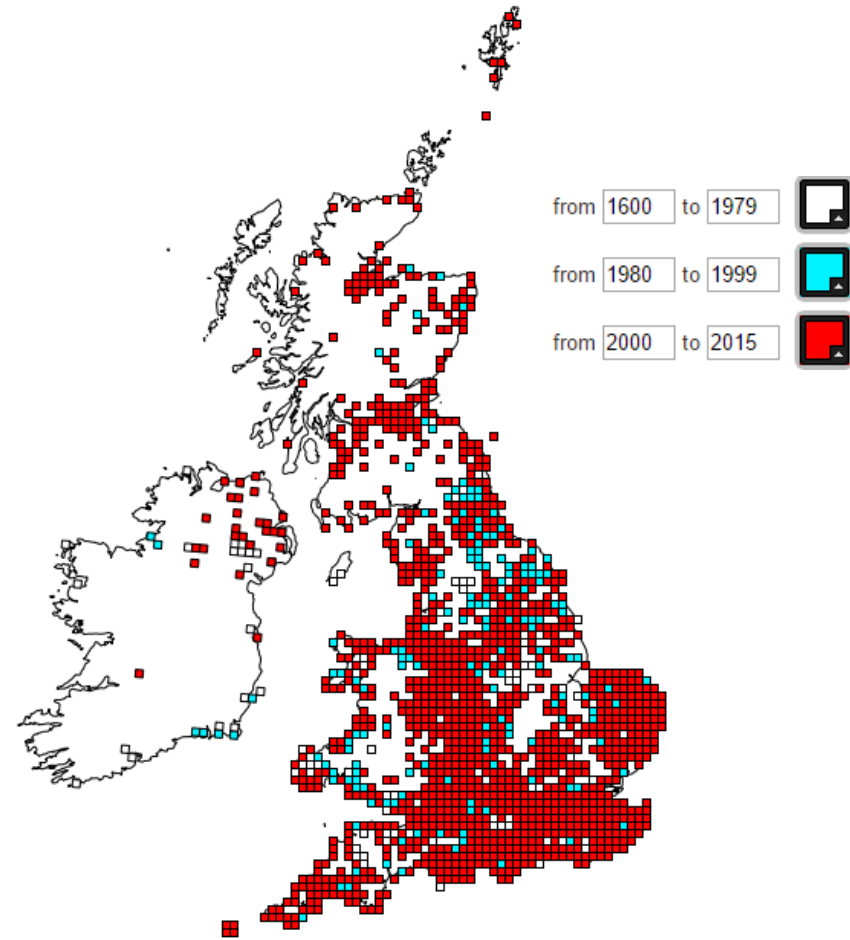
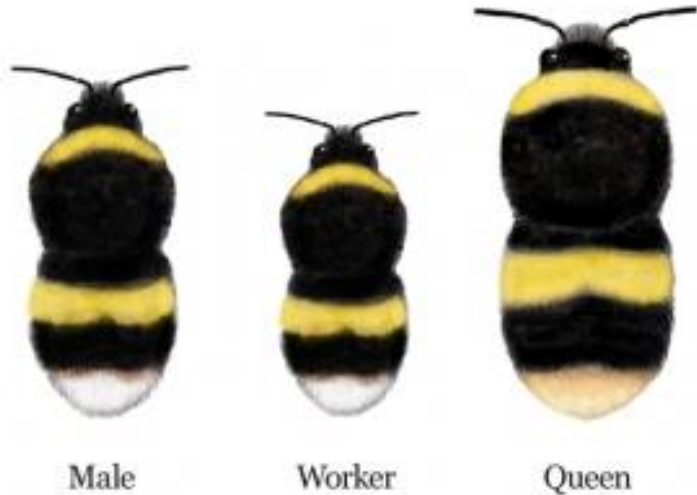
White-tailed bumblebee
B. lucorum



Buff-tailed bumblebee
B. terrestris

Buff-tailed bumblebee *B. terrestris*

White-tailed bees - common

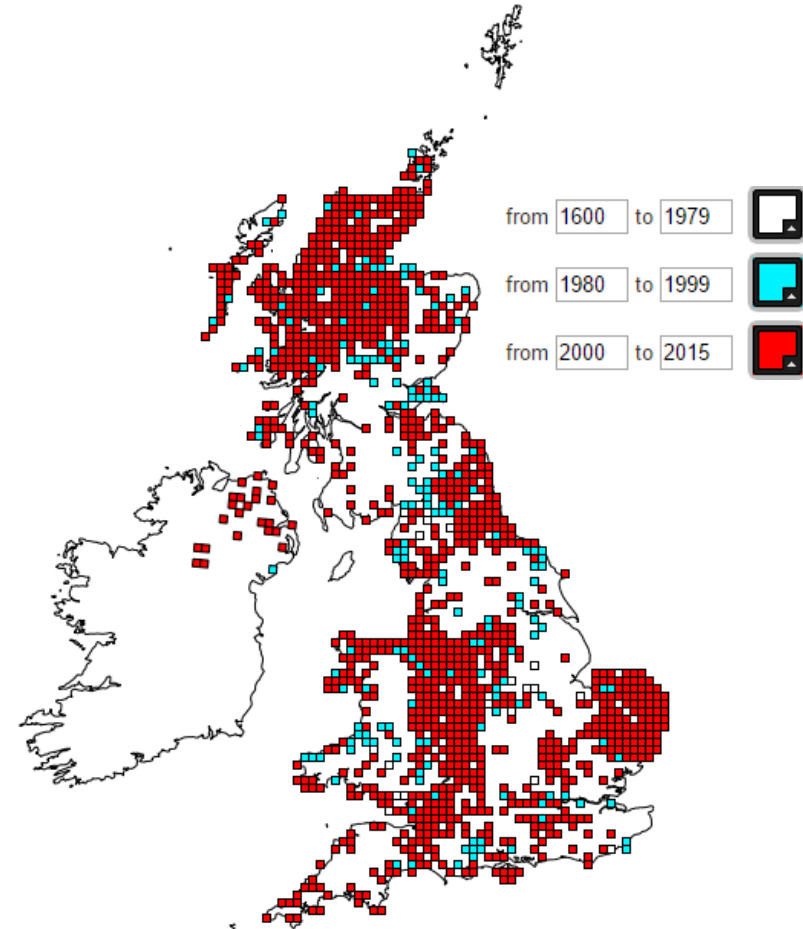
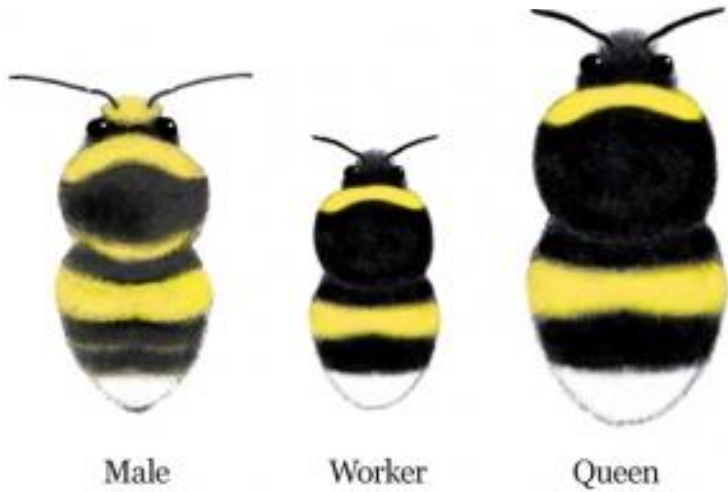


- Queens buff-tailed
- Workers & males white-tailed
- Sometimes thin yellow band at tail top

SIMILAR: *B. soroeensis*, *B. subterraneus*, *B. vestalis*, *B. bohemicus*, *B. sylvestris*

White-tailed bumblebee *B. lucorum*

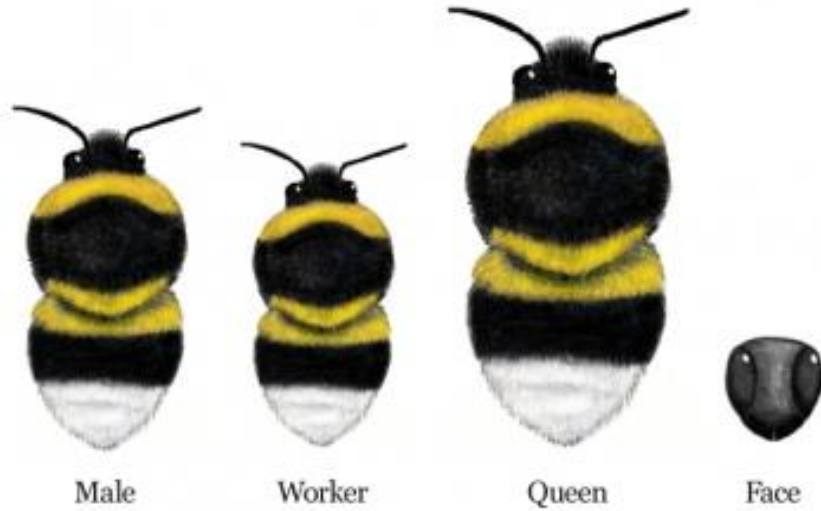
White-tailed bees - common



- No yellow hairs in tail
- Males have a yellow face
- Queens identifiable; males maybe
- Workers often impossible

SIMILAR: *B. soroeensis*, *B. subterraneus*, *B. vestalis*, *B. bohemicus*, *B. sylvestris*

White-tailed bees: 3 yellow bands



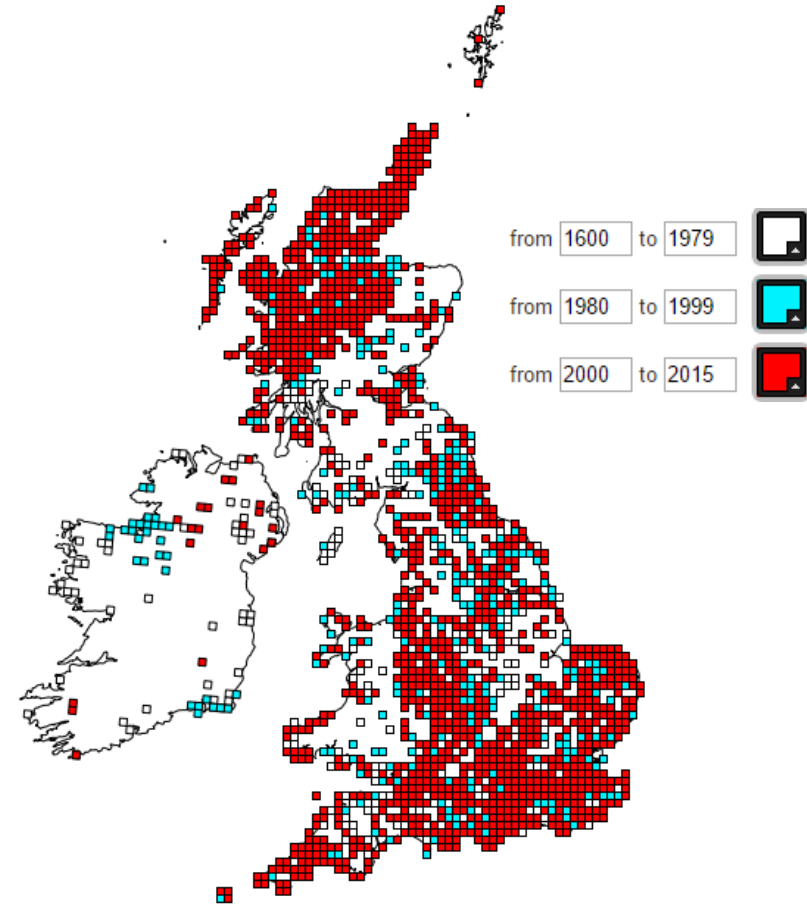
Heath bumblebee
B. jonellus



Garden bumblebee
B. hortorum

Garden bumblebee *B. hortorum*

White-tailed bees - common

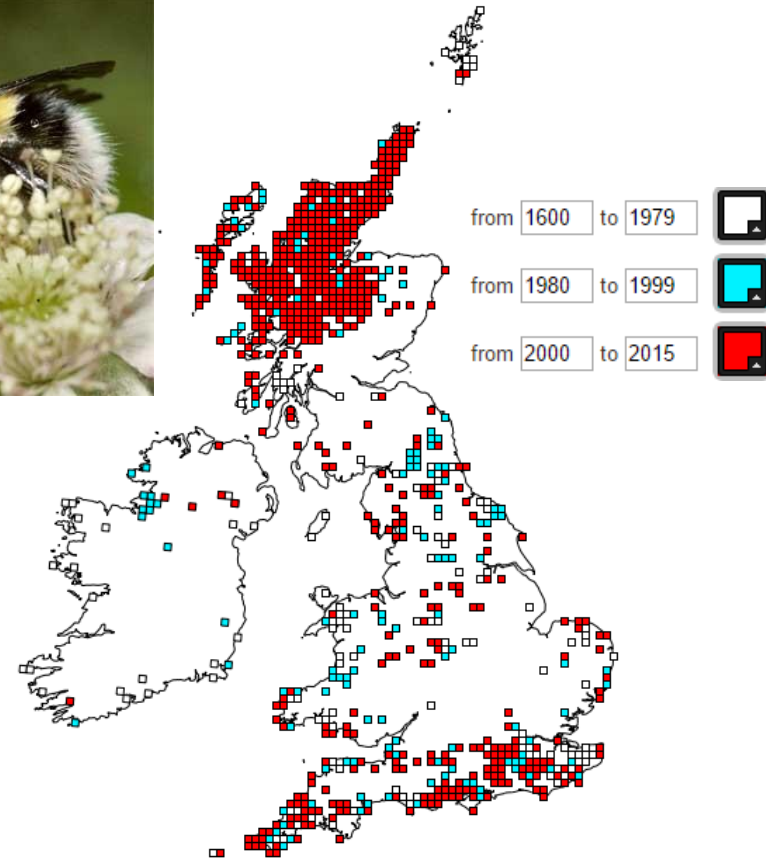
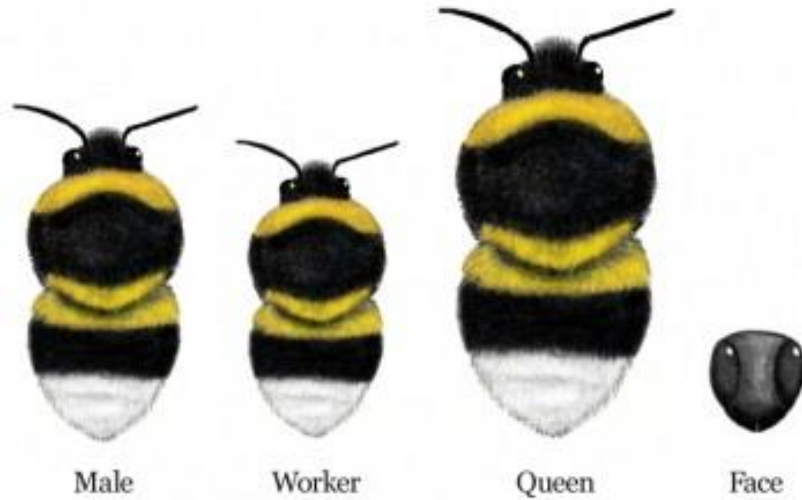


- Bulky, very long tongue
- Long face
- Pure white tail
- Very yellow appearance
- Occasional semi-melanics

SIMILAR: *B. ruderatus*, *B. subterraneus*, *B. sylvestris*, *B. bohemicus*, *B. barbutellus*

Heath bumblebee *B. jonellus*

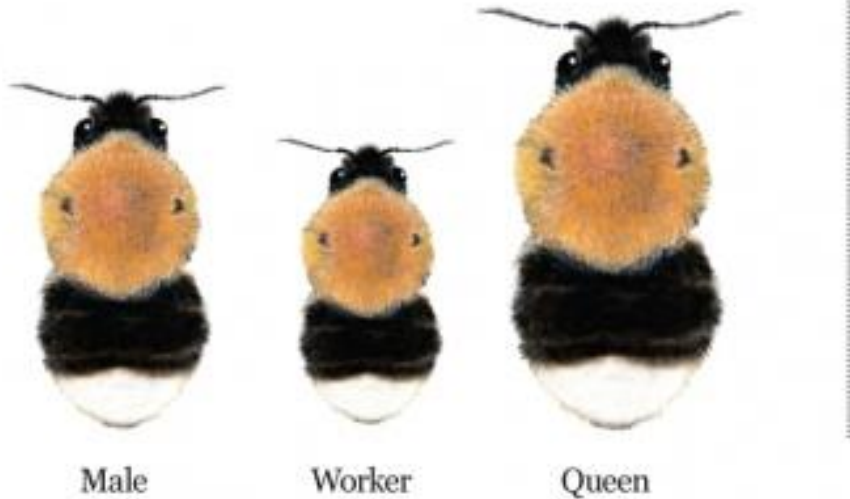
White-tailed bees - common



- Strong association with heaths
- Pale corbicula hairs
- Males have a yellow face
- Smaller, longer-haired than *hortorum*
- Round face

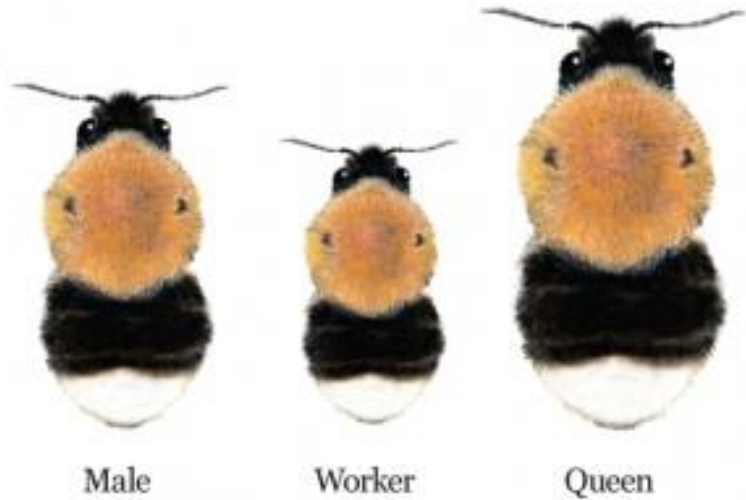
SIMILAR: *B. ruderatus*, *B. subterraneus*, *B. sylvestris*, *B. bohemicus*, *B. barbutellus*

White-tailed bees: Ginger thorax



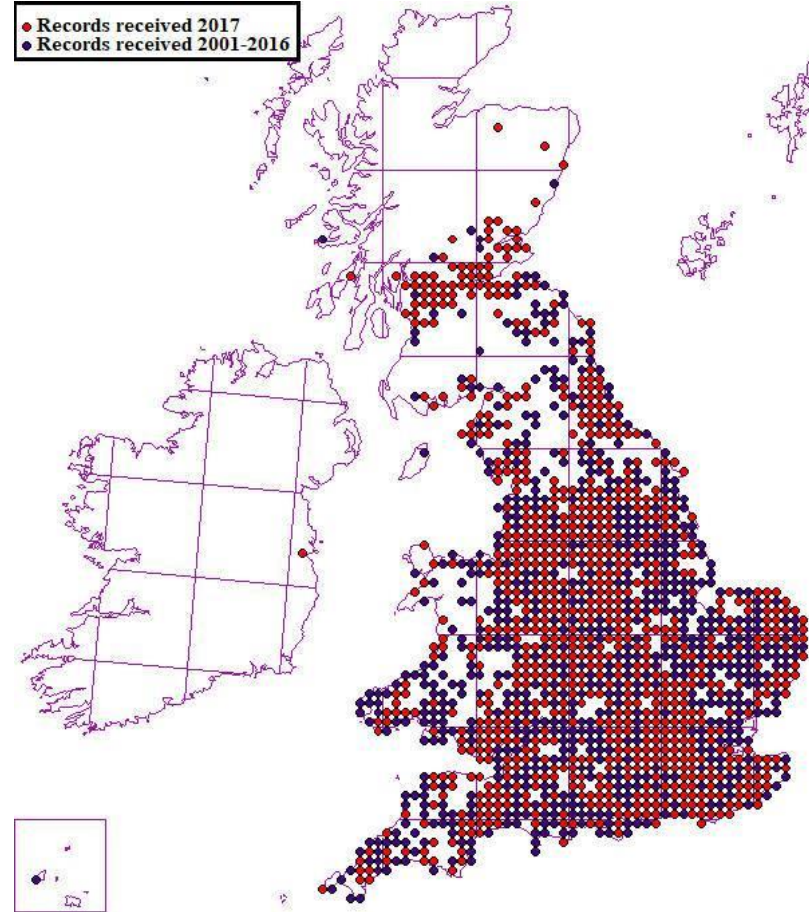
Tree bumblebee
B. hypnorum

Tree bumblebee *B. hypnorum*



White-tailed bees - common

● Records received 2017
● Records received 2001-2016



- Black thorax sides
- Dark-thorax colour form common
- T1&2 sometimes ginger
- Tail always white (even melanics)
- Spreading northwards

SIMILAR: worn *B. pascuorum*

Field kit

- Nets (Watkins and Doncaster
www.watdon.co.uk)
- Hand lens - x10 or x20
- Sample tubes
- Queen marker cages (Thornes or W&D)
- ID book



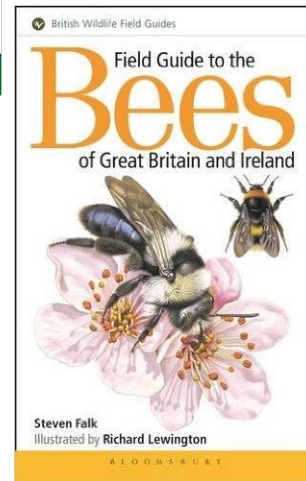
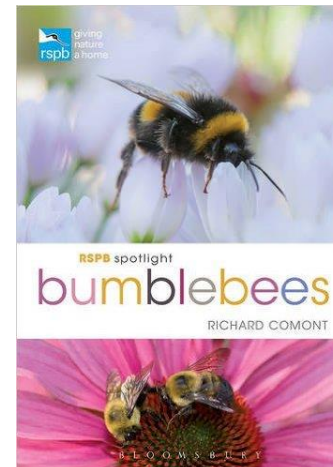
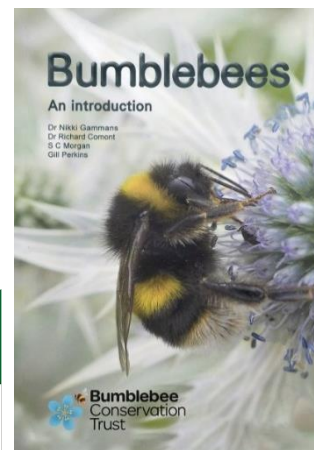
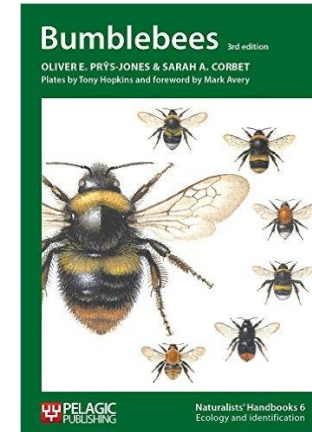
Further Reading

Gammans et al (2018). *Bumblebees: An Introduction*. Biddles

Prys-Jones, O.E and Corbet, S.A (2011) *Bumblebees (Naturalists' Handbook)*. Pelagic Publishing

Falk, S. and Lewington, R. (2015) *Field guide to the bees of Great Britain and Ireland*. Bloomsbury

Comont, R. (2017) *RSPB Spotlight: Bumblebees*. Bloomsbury



Quiz time!

All of these bumblebees are
queens of the common
species

White- tailed bumblebee





Common carder bee

Buff-tailed bumblebee





Red-tailed
bumblebee

Early
bumblebee



Garden bumblebee



All of these bumblebees are
workers or males of the
common species

Early
bumblebee
worker



Red-tailed
bumblebee
male



Buff-tailed
bumblebee
male



Common carder bee male



*Merodon
equestris* –
a hoverfly!



www.beewalk.org.uk

bumblebeeconservation.org

<http://bit.ly/beewatch>