

Key to Female Bumble Bees

START For females, look at thorax and choose arrow A, B, or C

If the thorax is:
all yellow OR yellow with a black spot

A

...then look at abdominal segments 1 and 2

1 entirely yellow **A1**
 2 segment 1 yellow; segment 2 brownish or yellow arch (common/less common) **A2**
 3 segment 1 yellow; segment 2 yellow-lobed pattern **A3**
 4 segment 1 yellow; segment 2 black **A4**
 5 segments 1 and 2 black **A5**
 6 segment 1 yellow; segment 2 brownish centrally **A6**

Bumble Bee Characteristics:

- black hair on top of head
- queens normal size (large)
- segment 2 often brownish
- hair short, dense
- space between bottom of eye and mandible is short; (shorter than wide)

Bumble Bee Characteristics:

- yellow hair on top of head
- queens small (size of large workers of other species)
- segment 2 yellow
- hair longish and shaggy
- space between eye and mandible is long (as long as or longer than wide)

Cuckoo Bumble Bees:

- side of thorax yellow
- abdomen often yellow on segment 3
- thoracic spot small or absent
- side of thorax black
- abdomen usually all black
- thoracic spot large

Species: *B. affinis* (R), *B. vagans* (R), *B. griseocollis* (C), *B. bimaculatus* (C), *B. impatiens* (C), *B. citrinus* (R, Absent from MO), *B. variabilis* (V)

If the thorax is:
yellow with a distinct black band between the wing bases

B

...then look at the whole abdomen

1 first 4 segments are yellow **B. fervidus** (O)
 2 2nd segment with brown internally, otherwise yellow **B. affinis** (R)
 3 segments 1 and 2 yellow, rest black **B. fraternus** (V)
 4 all black ... go to A5
 5 2nd and 3rd segments yellow, 1st segment yellow or black, rest black

If the thorax has:
yellow collar (anterior thorax) and rest is all black or a mix of yellow and black nearest the abdomen (posterior thorax)

C

...then either

a

- abdominal segment 1 usually all black
- top of head with yellow stripe
- posterior thorax often with yellow but varies from all black to all yellow
- side view of head fatter at the middle
- small eyes (ocelli; 3 circles) lower on face

B. auricomus (O)

b

- abdominal segment 1 usually with some yellow, especially in the center
- the top of the head all black
- posterior thorax usually black but varies from all black to mostly yellow
- side view of head fatter at the top
- small eyes (ocelli) higher on face

B. pensylvanicus (O)

Key to Male Bumble Bees

START For males, start by looking at the abdomen and choose which purple arrow (A-E) best describes it.

If 1st segment is yellow, and the rest are black.....

A

B. impatiens (C)

If 1st 2 segments have some color, and the rest are black.....

B

...then look at the color of abdominal segments 1 and 2.

1 segment 1 yellow; segment 2 with yellow-lobed pattern **B. bimaculatus** (C)

2 segment 1 yellow; segment 2 with brownish or yellow arch; large eyes **B. griseocollis** (C)

3 without any black

thorax yellow or with a small black spot; regular-sized eyes; shaggy hair; long face **B. vagans** (R)

black band or large spot on thorax; large eyes; short, coarse hair; very short face **B. fraternus** (V)

black band or large spot on thorax; tan arch in 2nd segment; regular eyes; mid-length hair; shortish face; **B. affinis** (R)

If 1st 3 abdominal segments are yellow, rest black

C

large eyes; hair short and even
face yellow mixed with black **B. auricomus** (O)

regular-sized eyes; hair shaggier
face black
CUCKOO
B. citrinus (R, Absent from MO)

If abdomen has repeated black and yellow striping or is all black

D

thorax all yellow or with a small black spot; yellow on segment 2 with a lobed pattern; side of thorax yellow **B. bimaculatus** (C)

large black area on thorax; no yellow-lobed pattern on segment 2; side of thorax black or black and yellow yellow **B. variabilis** (V, CUCKOO)

- ★ = common
- = occasional
- ☆ = rare
- ★ = very rare

If mostly yellow, 4 to all segments yellow, rest black.....

E

...then look at thorax

posterior thorax has a mix of black and yellow hairs; sides of thorax black **B. pensylvanicus** (O)

thorax yellow with a spot OR a black band and sides of thorax mostly yellow

black on thorax a spot or band

sides of thorax vary from black to yellow

extent of yellow on abdomen is variable (4-all segments)

space between eye and mandible is square, as long as wide or shorter

Head: side-view (square)

B. pensylvanicus (O)

black on thorax a band

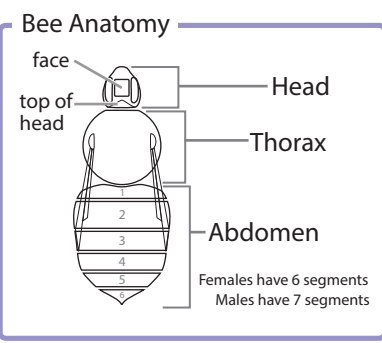
sides of thorax usually all yellow

usually first 5 segments yellow; rest black

space between eye and mandible is rectangular, longer than broad

Head: side-view (rectangular)

B. fervidus (O)



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