

# 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
- 2** segment 1 yellow; segment 2 brownish or yellow arch (common or less common)
- 3** segment 1 yellow; segment 2 yellow-lobed pattern
- 4** segment 1 yellow; segment 2 black
- 5** segments 1 and 2 black
- 6** segment 1 yellow; segment 2 brownish centrally

**A1** **A2** **A3** **A4** **A5** **A6**

- A1:**
  - 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)
  - B. affinis* (R)
- A2:**
  - 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)
  - B. vagans* (R)
- A3:**
  - arch brownish or yellow, top of head black
  - B. griseocollis* (C)
- A4:**
  - arch yellow, top of head yellow
  - B. bimaculatus* (C)
- A5:**
  - Cuckoo Bumble Bees**
    - side of thorax yellow
    - abdomen often yellow on segment 3
    - thoracic spot small or absent
    - B. citrinus* (R, Absent from MO)
  - side of thorax black
  - abdomen usually all black
  - thoracic spot large
  - B. variabilis* (V)
- A6:**
  - B. affinis* (see A1 or B2)

**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
- 2** 2nd segment with brown internally, otherwise yellow
- 3** segments 1 and 2 yellow, rest black
- 4** all black ... go to A5
- 5** 2nd and 3rd segments yellow, 1st segment yellow or black, rest black

*B. fervidus* (O) *B. affinis* (R) *B. fraternus* (V)

**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.

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

*B. impatiens* (C)

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

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

- 1** segment 1 yellow; segment 2 with yellow-lobed pattern
- 2** segment 1 yellow; segment 2 with brownish or yellow arch; large eyes
- 3** without any black
  - thorax yellow or with a small black spot; regular-sized eyes; shaggy hair; long face
  - black band or large spot on thorax; large eyes; short, coarse hair; very short face
  - black band or large spot on thorax; tan arch in 2nd segment; regular eyes; mid-length hair; shortish face;

*B. bimaculatus* (C) *B. griseocollis* (C) *B. vagans* (R) *B. fraternus* (V) *B. affinis* (R)

**C** If 1st 3 abdominal segments are yellow, rest black

- 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)

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

- 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**

**E** If mostly yellow, 4 to all segments yellow, rest black

...then look at thorax

- posterior thorax has a mix of black and yellow hairs; sides of thorax black
- 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
- space between eye and mandible is rectangular, longer than broad
- B. pensylvanicus* (O)
- B. pensylvanicus* (O)
- B. fervidus* (O)

- C = common
- O = occasional
- R = rare
- V = very rare

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