

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* (G)
- A4:**
 - arch yellow, top of head yellow
 - B. bimaculatus* (G)
- 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
 - 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)

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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 (G)

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 (G) *B. griseocollis* (G) *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* (G)
- 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)

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

Sydney Cameron, Dept of Entomology, UIUC
Scientific content and coordination

Heather Hines, Dept of Entomology, UIUC
Original artwork and scientific content

Janet Sinn-Hanlon, Beckman Institute ITG, UIUC
Graphic Design

Edward Spevak, St. Louis Zoo
Curator of Invertebrates

