

Bumble bees of BC's south coast that can be identified “on the wing”

- This guide works for the south coast of British Columbia Canada, where the Elle lab has worked in natural areas and on farms for many years.
- There are some bumblebees that are listed as occurring in BC but I've never encountered at the coast, and so I don't include them here (I don't have photos or specimens). All photos by me unless I've given attribution to others.
- Many of our bumblebees can be identified while visiting flowers as they are fairly distinctive (in contrast to mining bees or mason bees which need to be put through a key, using a microscope). Bumble bees can also be captured in a net and chilled in a cooler with ice for a few minutes to slow them down and make identification easier, if needed. They can be released once they warm up.
- When photographing bees, it's best to stay 50 cm or more away so you don't disturb them causing them to fly off. That said, bumble bees seem more tolerant of people than other bees, especially when foraging, so experiment a little!
- When photographing or observing insects, it's best to avoid casting a shadow on them, often this makes them fly away (consider facing into the sun). Most bees are active only in fair weather, though bumble bees are more tolerant of cloud and drizzle than most. They will move more slowly when it's cool, which you can use to your advantage, but you will see fewer of them compared to making observations on warmer, sunnier days.
- Use the burst feature on your camera if you have it, which is helpful for getting at least one clear shot of a small moving insect. If using a phone, limit use of optical zoom as it can lead to pixilated photos (better to zoom in later on a clear but distant photo). You might experiment with your phone or camera to understand how well it focusses and at what distance.
- Photos that capture the abdomen and head from the side are the best for identification of bumble bees.
- If a bee looks really different, it might be a male. They tend not to resemble the females much in several of our species. They are normally present later in the year, but sometimes are produced earlier if a colony is stressed. Many people doing biodiversity surveys of bees focus only on females.
- You might consider looking at the line drawings in the “field guide” from bumblebee watch: <https://www.bumblebeewatch.org/field-guide/>
- Have fun—pollinators are awesome!



SIMON FRASER UNIVERSITY
ENGAGING THE WORLD

Distinctive mostly black bees-1



***Bombus vosnesenskii* (yellow-faced bumble bee)**

- Black with yellow head, yellow front of thorax, and thin yellow stripe on abdomen
- The pile tends to be quite short so the bees appear velvety
- Note: there is another species, *B. caligunosus*, where the yellow stripe continues to the terga, the underside of the abdomen. I have looked at LOTS of bees and have never encountered a *caligunosus* at the coast, but it's because they look so much alike that some people do not definitively ID to *B. vos* on the wing.



***Bombus impatiens* (Eastern bumble bee)**

INTRODUCED

- Head and thorax yellow, as well as the first segment of the abdomen. Remainder of abdomen is black.
- Originally introduced for greenhouse pollination but increasingly ubiquitous in the lower mainland. Unsure if it's on the Gulf Islands yet, but it is worth keeping an eye out for it.

Distinctive mostly black bees-2



***Bombus californicus* = *fervidus* (California bumble bee)**

- A relatively large bee, mostly just in the south of B.C..
- Thorax can be yellow just on the front (bee on yellow flower), or both front and back (purple flower). Yellow stripe on abdomen.
- Similar to *B. vos* BUT face is black not yellow, and generally more 'buff' than bright yellow in color.
- Similar to *B. occ* (next) BUT abdomen is black with yellow stripe, not white.

(photos on purple flower, Julie Wray)



***Bombus occidentalis* (Western bumble bee) ENDANGERED**

- Yellow and black with a **white** end of the abdomen (multiple abdominal segments, not just a stripe). Abdomen sometimes looks more "buff" than bright white.
- Black face also distinguishes them from *B. vos*.

(top photo Lindsey Button, bottom photos Tiaa Haapala)



Bees with red on abdomen - 1

Relative position of red vs. yellow (or black) on abdomen distinguishes these bees.
First two are very distinctive, next page is tougher!



***Bombus melanopygus* (red-tailed bumble bee)**

- Abdomen is yellow, then wide red band, then black. Segments: YRRRBB
- Will really just read as “RED!”.
- Another common name is black-tailed, as the very last segment is always black (look at the Latin name!). There is colour variation across the range but in our region these bees are always very distinctly red.
- Rarely (as in photo on blueberry) there is some yellow after the red on the abdomen.
- Males are brighter yellow on the face, fuzzier looking, and also have some red on the abdomen.



***Bombus vancouverensis* (formerly *B. bifarius*).**

The Vancouver bumble bee.

- Distinctive bee of Vancouver Island (not the mainland)
- Abdomen is yellow, black, red (two segments), yellow, black. Segments: YBRRYB
- The red on the abdomen is followed by yellow, distinguishing it from *B. mel*.
- The “red” tends to look more orange than *B. mel* to my eyes.
- Two white spots on thorax, make the black on thorax appear diamond-shaped.



NOTE: *Bombus rufocinctus* can have red (or not, in which case it looks similar to *californicus*). We have few records. Worth looking up/keeping in mind.

Bees with red on abdomen – 2 (the hard ones!)



Above on
Aquilegia: Tia
Haapalainen.
Right, dark form:
Kathleen Salbuvik

Bombus flavifrons (yellow fronted bumble bee)

- These bees look long/skinny, and if you can see it, have a long face (and long tongues, so you will see them on things like Delphinium and Aquilegia, as in the photos).
- Abdomen is black, yellow, then ends in red. Segments: BYYRRR
- The red stripes are clearly delineated so even a bad photo (like on the delphinium) you can see it's a stripy bee.
- There is a dark form with no red, the abdomen ends only in black (bottom).



Bombus mixtus (fuzzy-horned bumble bee)

- Appear round, fuzzy, almost messy-looking. Definitely more reddish brown or orange than red.
- Abdomen is yellow, black, then orange. Segments: YYBBOO
- Black on abdomen distinguishes them from *B. flavi*, as does the generally rounder, fuzzier body and less distinct abdomen tip.
- A very common bee, if you are stuck on a somewhat indistinct bee it's more likely *mixtus* than *flavifrons*.

Male bumble bees

- All male bees have an extra antenna segment and an additional abdominal segment relative to females. This can be hard to see without magnification, but if you see a bee that seems to have longer antennae than you expect and a long skinny butt....it's a clue! Male bees also won't have corbicula as they don't collect pollen/provision the nest, so a bee with no pollen could be male (or a female at the start of a foraging trip!). Males can look "messy" as they don't groom pollen into corbicula to bring to the nest.
- Male bumble bees are distinctly yellower and fuzzier than females, and their back leg is slim (no corbicula). This makes them quite distinctive! Their colour patterns are sometimes similar to females of their species (for instance, in *vos* and *impatiens*), but I wouldn't trust ID of other males on the wing. These photos are likely a mix of *B. flavifrons* and *B. mixtus* but I'd want to confirm with a microscope and key.

