

California Bumble Bee (*Bombus*) Females



<p><i>centralis</i> <i>bifarius</i> 1</p>		<p><i>bifarius</i> <i>fervidus</i> 2</p>		<p><i>fervidus</i> <i>crotchii</i> 3</p>		<p><i>appositus</i> 4</p>		<p><i>flavidus</i> 5</p>	
<p><i>crotchii</i> <i>flavifrons</i></p>		<p><i>flavifrons</i> <i>griseocollis</i></p>		<p><i>franklini</i> <i>occidentalis</i></p>		<p><i>occidentalis</i> <i>insularis</i></p>			
<p><i>huntii</i> <i>kirbiellus</i></p>		<p><i>impatiens</i> <i>melanopygus</i></p>		<p><i>vosnesenskii</i> <i>vandykei</i></p>		<p><i>occidentalis</i> <i>suckleyi</i></p>			
<p><i>mixtus</i> <i>rufocinctus</i></p>		<p><i>rufocinctus</i> <i>nevadensis</i></p>		<p><i>caliginosus</i></p>		<p><i>sitkensis</i></p>			
<p><i>syvicola</i> <i>syvicola</i></p>		<p><i>pensylvanicus</i> <i>morrisoni</i></p>		<p>Color pattern groups</p> <ol style="list-style-type: none"> 1. Red hair present 2. Stripes + T1 yellow 3. Stripes + T1 black 4. White hair present 5. Cuckoo bumble bees 		<p>Symbols used in key:</p> <ul style="list-style-type: none"> Montane Pacific Coast Northern CA Southern CA Declining 		<p>CALIFORNIA BUMBLE BEE ATLAS caBumbleBeeAtlas.org</p>	

Identifying the Bumble Bees of California

1. Determine whether you are looking at a male or female bumble bee (see **Figure 1**).
2. Next, determine whether your bee is a “true” or a “cuckoo” bumble bee. Most bumble bee females have a concave, hairless pollen-carrying area (corbicula) on the hind leg (**Figure 2**, left panel), while in cuckoo species this area is convex and hairy (right panel). Legs of males are more difficult to tell apart, but generally, cuckoo male legs are hairier than true male bumble bee legs.
3. Hair color patterns: Page 1 of this guide shows typical color patterns for female bumble bees found in California. Examine the hair color on the front and top of the face, the thorax, and the six abdominal segments (‘Terga,’ abbreviated as ‘T’ on the first page). Caution, many species have variable color patterns, and males are not depicted here! Make sure to consult a field guide too!
4. Beyond color patterns, useful identification marks are: cheek length (relative to width; **Figure 3**), wing color, placement of simple eyes on the head, and presence of sternal hairs (**Figure 4**).
5. Symbols indicate *recent* distribution of species and/or individual color morphs with strong affinities for particular habitats/regions, as well as *known* patterns of decline. Expect to also find bees outside of the areas indicated!

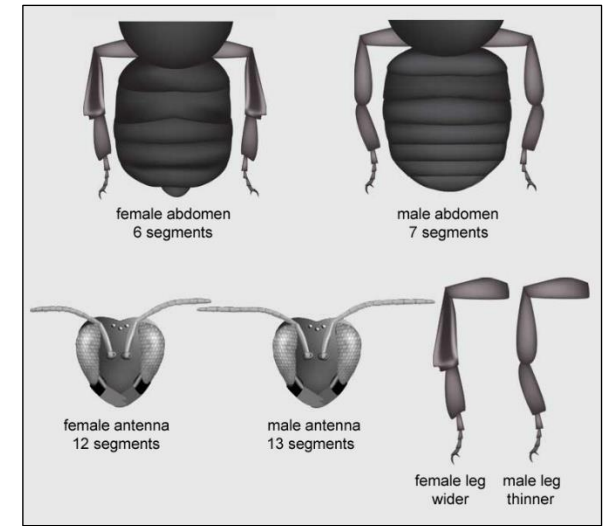


Figure 1: Characteristics of male vs. female bumble bees. Illustrations by Elaine Evans, the Xerces Society



Figure 2: Hind legs tibial segment of true (left) vs. cuckoo (right) bumble bees. Photos Sam Droege, USGS Bee Inventory and Monitoring Lab.

Figure 3: Cheek Length. The bee on the left has a long cheek and the bee on the right has a short cheek. Photos: Rich Hatfield, the Xerces Society.

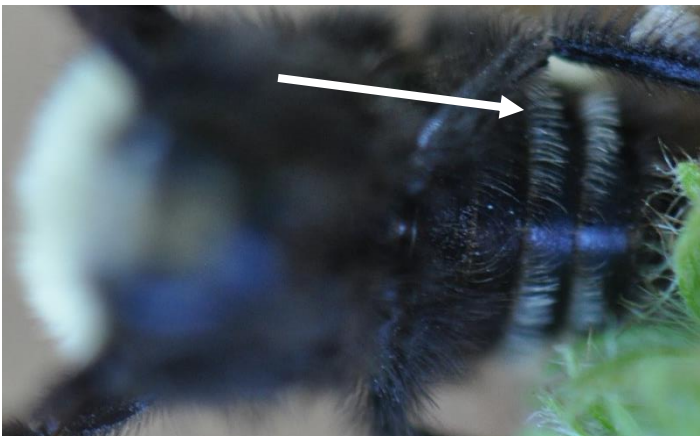


Figure 4: Note the yellow hairs on the sternal (underside of the abdomen) segments. Similar species have black hairs in that location. Photo by Rich Hatfield, the Xerces Society.

