Bombus melanopygus (Black Tail Bumble Bee)

No Photo Available

Taxonomy

- **Class**: INSECTA
- **Order**: Hymenoptera
- **Family**: Apidae
- **Genus**: Bombus
- **Scientific Name**: Bombus melanopygus (Nylander, 1848)
- **Common Name**: Black Tail Bumble Bee
- **Synonyms**:
- **Taxonomic Name Source**:Bombus melanopygus is considered to be conspecific with B. edwardsii (Owen et al. 2010) (Nylander, 1848)

Agency Status

- **NMDGF**:
- **Federal Status**:
- **BLM Sensitive**:
- **USFS**:
- **IUCN Red List**: Least Concern
- **Nature Serve Global**: G5
- **NHNM State**: S1
- **NM Endemic**:NO

Description

Bombus melanopygus is a small bodied species common across the western United States. Bombus melanopygus and Bombus edwardsii are considered to be conspecific but were distinguished by distinct color patterns, essentially a dark and light morphology. The light morph with red on the abdomen and the dark with black, the former exclusively being found in New Mexico (iNaturalist 2026). Hair on the face and head are commonly yellow while the oculo-malar area, often referred to as the ‘cheek’ is as long as broad. A black band on the thorax is often vaguely defined, giving off a grey hue. T1 of the abdomen is always yellow with, either orange or black following (Williams et al., 2014).

Habitat and Ecology

Locally observations span a much smaller phenological window, with early occurrences June proceeding through October (“GBIF” 2025). Somewhat uniquely, B. melanopygus nests may occur above ground in sites such as abandoned birdhouses, or building insulation (Williams et al. 2014). B. melanopygus is a medium-tongued species that occupies open grasslands, prairies, mountain meadows, forest edges, and urban areas, and forages on a wide range of flowering plants, including Arctostaphylos, Ceanothus, Ericameria, Eriogonum, Lupinus, Penstemon, Salix, Salvia, Trifolium, Vaccinium, and Wyethia, among others (Williams et al., 2014), all genera with species occurring in New Mexico (“USDA Plants Database State Search” 2026). B. melanopygus in the southwest is mostly recorded in higher elevation habitat types each contributing distinct resources. Rocky Mountain Subalpine–High Montane Meadows provide mid- to late-season forage in high-elevation, open landscapes, where native flowering plants such as Bistorta, Erigeron, Geum, Castilleja, and Carex bloom in moist basins and snowmelt-fed swales. These meadows offer reliable nectar and pollen when lower-elevation habitats are drier. At slightly lower elevations, the Intermountain Juniper Woodland supports foraging in open piñon–juniper savannas, with native wildflowers and shrubs including Artemisia, Ericameria, Astragalus, Eriogonum, and Penstemon. Together, these habitats form an interconnected landscape that sustains Bombus melanopygus across spatial and temporal gradients (“NMDGF SWAP” 2025).

Geographic Range:

Bombus melanopygus occurs across much of western North America, including most of California, north through Oregon and Washington, and into western Canada and Alaska, where it occurs sparsely in tundra and taiga regions. It is also present in higher elevations of the Desert Southwest, including Arizona, New Mexico, Utah, and Nevada, and occurs sporadically across the Mountain West. Additional scattered populations occur in the northern Great Plains and in disjunct areas near the Arctic Circle and eastern Canada, including Quebec and maritime Labrador (Williams et al. 2014). B. melanopygus has a broad range across the USA, but is sparsely recorded in New Mexico, having been located only in the mountains of the Santa Fe National Forest. (iNaturalist 2026; “GBIF” 2025).

Conservation Considerations:

In New Mexico, general practices are recommended due to the vulnerability of many bumblebees and the value of healthy wild bee populations. Key actions include conserving and restoring high-quality habitat that provides forage, nesting, and overwintering sites; limiting pesticide use near these areas, especially during bloom; promoting pollinator-friendly farming practices such as planting native legumes and other beneficial species along field margins; reducing disease transmission from managed bees; and avoiding the introduction of honey bees into high-quality native bee habitat. Broader research priorities for North American bumble bees are outlined in the literature (Cameron et al. 2011; Williams and Osborne 2009).

Threats:

One study found clear genetic differentiation among populations of B. melanopygus across western North American mountain ranges. Western populations showed significant genetic structure relative to inland populations, indicating limited gene flow across parts of the species’ range (Sakulich et al. 2025). These results suggest that landscape features and habitat connectivity influence population structure in B. melanopygus, and that reductions in suitable or connected habitats, such as those expected with climate-driven shifts in montane environments, could increase genetic isolation among populations. Maintaining habitat connectivity may therefore be important for preserving genetic diversity and long-term population stability in this species. Colony nectar reserves strongly influence worker behavior and brood development for Bombus melanopygus. When colonies became nectar-depleted, workers stopped incubating brood, allowing temperatures to fall to ambient levels, and showed reduced defensive responses to predators and social parasites (Cartar and Dill 2012). In contrast, workers from nectar-rich colonies actively defended the nest and maintained brood temperatures. These results suggest that short-term energy shortages in B. melanopygus colonies can increase vulnerability to threats and slow colony growth, highlighting the importance of adequate nectar resources for colony stability and defense. Although no single threat has been identified as uniquely affecting Bombus melanopygus, the combination and intensity of broad-scale pressures make these threats particularly concerning in New Mexico, where bumblebee populations occur near the southern and lower-elevation limits of their ranges and rely on patchy, climate-sensitive habitats. Here in New Mexico, B. melanopygus may be susceptible to broader pressures including habitat loss, fire, competition with non-native bees, and climate change (Fürst et al. 2014; Cameron et al. 2011).

Population:

Locally, B. melanopygus has sparse historic records with its first state occurrence recorded in 1899. Since then there have only been two occurrences in the 1900s and a current uptick of ~7 occurrences being recorded between 2009-2025, with the 5 most recent observations reported from iNaturalist (“GBIF” 2025; iNaturalist 2026).

References:

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More Information