Bombus insularis (Indiscriminate Cuckoo Bumble Bee)

No Photo Available

Taxonomy

- **Class**: INSECTA
- **Order**: Hymenoptera
- **Family**: Apidae
- **Genus**: Bombus
- **Scientific Name**: Bombus insularis (Smith, 1861)
- **Common Name**: Indiscriminate Cuckoo Bumble Bee
- **Synonyms**:
- **Taxonomic Name Source**:(Smith, 1861)

Agency Status

- **NMDGF**:
- **Federal Status**:
- **BLM Sensitive**:
- **USFS**:
- **IUCN Red List**: Least Concern
- **Nature Serve Global**: G3
- **NHNM State**: S1
- **NM Endemic**:NO

Description

Bombus insularis is a parasitic bumblebee, known for its cuckoo-like behavior, and lacking a corbicula for pollen collection. Rather than establishing its own colonies, it invades the nests of other bumblebee species (primarily in the subgenus Pyrobombus) (Goulson 2010). It is a medium bodied species that is common across the mountain-west of the United States. The hair on its face is predominantly black with yellow hairs at the antennal base. The thorax is often yellow with black hairs between the wings occasionally continuing onto the sides or towards the posterior, leading into a mostly black abdomen with fairly distinct yellow patches on the sides of the lower tergal segments (Williams et al., 2014). The few observations of B. insularis in New Mexico share a mostly yellow thorax with a stripe of black hairs between wings and a predominantly black abdomen with yellow side patches towards the end sometimes connecting across at the tip (iNaturalist 2026).

Habitat and Ecology

Known host species include B. appositus, B. fervidus, B. flavifrons, B. nevadensis, and B. ternarius, and the species has also been recorded in nests of B. rufocinctus, B. occidentalis, and B. terricola most of which occur in New Mexico (Williams et al., 2014). Before locating host nests, females forage on flowers such as Aster, Eupatorium, Heliomeris, Melilotus, Rubus, Senecio, Solidago, Trifolium, and Vaccinium (Williams et al., 2014). Bombus insularis has almost year-round records but the bulk of seasonal activity begins in April and tapers off in October, while peaking in May through August. Locally observations span a much smaller phenological window, with all records occurring in June, July, and September (“GBIF” 2025). B. insularis 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 insularis across spatial and temporal gradients (“NMDGF SWAP” 2025).

Geographic Range:

B. insularis has an abundant range across parts of the USA, but is sparsely recorded in New Mexico, having been located only in the northern mountainous regions of the state (“GBIF” 2025; IDigBio Specim. Portal 2025). The mountains of northern New Mexico are shaped by the Southern Rocky Mountains ecoregion covering about 10,200 square miles and includes the Sangre de Cristo, Jemez, and San Juan Mountains. Elevations are higher, ranging from roughly 6,500 to over 13,160 feet, with rugged peaks and intermontane valleys. This region experiences a mid-latitude continental climate, shifting to subarctic at high elevations, with cool summers, very cold winters, and greater average precipitation of about 24 inches annually, delivered primarily as winter snow and summer thunderstorms. B. insularis’ New Mexican occurrences are reported in the Sangre de Cristo mountain range (“NMDGF SWAP” 2025; iNaturalist 2026).

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:

Although no single threat has been identified as uniquely affecting Bombus insularis, 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. As a parasitic species B. insularis may be susceptible to the same broader pressures as its hosts including habitat loss, fire, competition with non-native bees, and climate change (Fürst et al. 2014; Cameron et al. 2011).

Population:

Locally, B. insularis has predominantly historic records with its first state occurrence recorded in 1894. Since then records were few and far between with a large gap persisting from 1908-1971. Recent state occurrences date in the 2000s, but are predominately identified off of iNaturalist photos and not preserved specimens or formal surveys (“GBIF” 2025; iNaturalist 2026).

References:

- Cameron, Sydney A., Jeffrey D. Lozier, James P. Strange, et al.. 2011. Patterns of Widespread Decline in North American Bumble Bees. Proceedings of the National Academy of Sciences. https://doi.org/10.1073/pnas.1014743108
- Fürst, M. A., D. P. McMahon, J. L. Osborne, R. J. Paxton, and M. J. F. Brown.. 2014. Disease Associations between Honeybees and Bumblebees as a Threat to Wild Pollinators.. Nature. https://doi.org/10.1038/nature12977
- 2025. GBIF. GBIF. https://www.gbif.org/

- Goulson, Dave. 2010. Bumblebees: Behaviour, Ecology, and Conservation. OUP Oxford.
- 2026. Bombus Insularis. iNaturalist. https://www.inaturalist.org/taxa/143036-Bombus-insularis
- 2025. NMDGF SWAP. NMDGF SWAP. https://univofnm.maps.arcgis.com/apps/webappviewer/index.html?id=13f7df568b15489a948e1bf1efb6524c
- Williams et al.. 2014. Bumble Bees of North America. Princeton University Press. https://press.princeton.edu/books/paperback/9780691152226/bumble-bees-of-north-america
- Williams, Paul H., and Juliet L. Osborne.. 2009. Bumblebee Vulnerability and Conservation World-Wide.. Apidologie. https://doi.org/10.1051/apido/2009025

More Information