



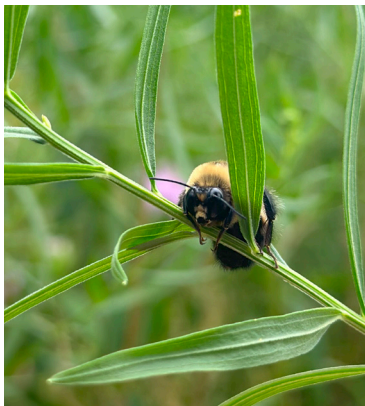
THINGS TO KNOW ABOUT MALE BUMBLE BEES

Male bumble bees, called drones, play an important role in colony success. Beyond mating, their specific roles in and outside of the colony differs among species. Let's dive in to learn more about these gentle giants!

1

Males emerge in late summer to early fall.

The production of males is thought to be triggered by a high density of female workers in the colony. The queen, and sometimes workers, then start laying unfertilized eggs to produce males. These eggs take between 24-28 days to develop into adults, and another 6-20 days to sexually mature after emergence.¹



While a male is sexually maturing, he remains in the colony. During this time, males have been documented caring for brood. Developing brood develops faster when it is being incubated by bees in the colony. Thus, they **contribute to offspring care!**

How can I tell a male from a female?

This *Bombus griseocollis* male is identifiable in part by his large eyes.

Males also have a less "robust" appearance because they lack pollen-carrying structures of females.

Photo by Nicole Bell.

2

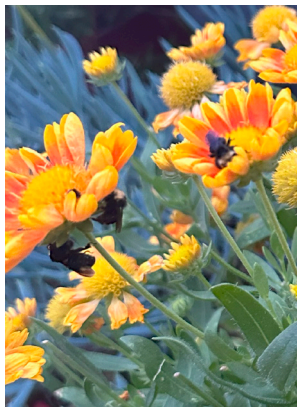
Males leave their colony, and most never return.

Once a male is sexually mature, he departs the colony. From this point on, he meets his energy needs by foraging for nectar on flowers. This energy is necessary to fuel his activities: some males patrol several hundred meters from their nest to find suitable mates. Other males wait by nest entrances for new queens, called gynes, to emerge. In some bumble bee species, a male's flight range is 17x farther than a worker's!³ Flight range is dependent on available food resources and mates.² Because males don't return to the colony once they've left, they often spend the night on flowers, sometimes in groups.

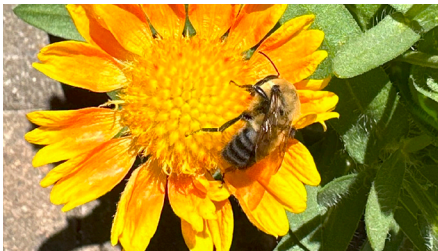
3

Males can be efficient and important pollinators!

Though males don't forage for pollen and lack the pollen-carrying structures that most female bumble bees have, they are still quite busy! In fact, males can effectively pollinate many flowering plant species, leading to seed production.⁴ They are important pollinators of late-season, nectar-producing plants.⁴ Due to their long flight range, they also make a disproportionately large contribution to long-distance pollination services.²



A group of male bumble bees settle in for the night on flowers. This is very common once males have left their colony. Photo by Nicole Bell.



A male *Bombus griseocollis* forages on a *Gaillardia*. This male is identifiable in part by his “lanky” appearance, caused by his lack of pollen-carrying structures, extra abdominal segment, and extra antennal segment. **Fun fact: no male bumble bees can sting!** Photo by Nicole Bell.

Additional Resources

- 1) Belsky, J.E., Camp, A.A., Lehmann, D.M., 2020. The Importance of Males to Bumble Bee (*Bombus* Species) Nest Development and Colony Viability. *Insects* 11, 506. <https://doi.org/10.3390/insects11080506>
- 2) Jennersten, O., Morse, D.H., O'Neil, P., 1991. Movements of Male and Worker Bumblebees on and between Flowers. *Oikos* 62, 319–324. <https://doi.org/10.2307/3545496>
- 3) Kraus, F.B., Wolf, S., Moritz, R.F.A., 2009. Male Flight Distance and Population Substructure in the Bumblebee *Bombus terrestris*. *Journal of Animal Ecology* 78, 247–252.
- 4) Ogilvie, J.E., Thomson, J.D., 2015. Male bumble bees are important pollinators of a late-blooming plant. *Arthropod-Plant Interactions* 9, 205–213. <https://doi.org/10.1007/s11829-015-9368-x>
- 5) Wolf, S., Moritz, R.F.A., 2014. The pollination potential of free-foraging bumblebee (*Bombus* spp.) males (Hymenoptera: Apidae). *Apidologie* 45, 440–450. <https://doi.org/10.1007/s13592-013-0259-9>

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