

Journey of the Bumble Bee Queen

In addition to being charismatic and adorable, bumble bees are vital pollinators that support plant life and provide us with fruits and vegetables. Each spring, a bumble bee colony starts anew in the hands of a tough queen who survives the winter. Read on to learn about the life of bumble bees.

Comic by Julia Shangguan, edited by Robert Costello and Jennifer Renteria.

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Springtime is when pollination begins.



One of the first to arrive on the scene are bumble bees, our hard-working pollinators!



When did you get here?!

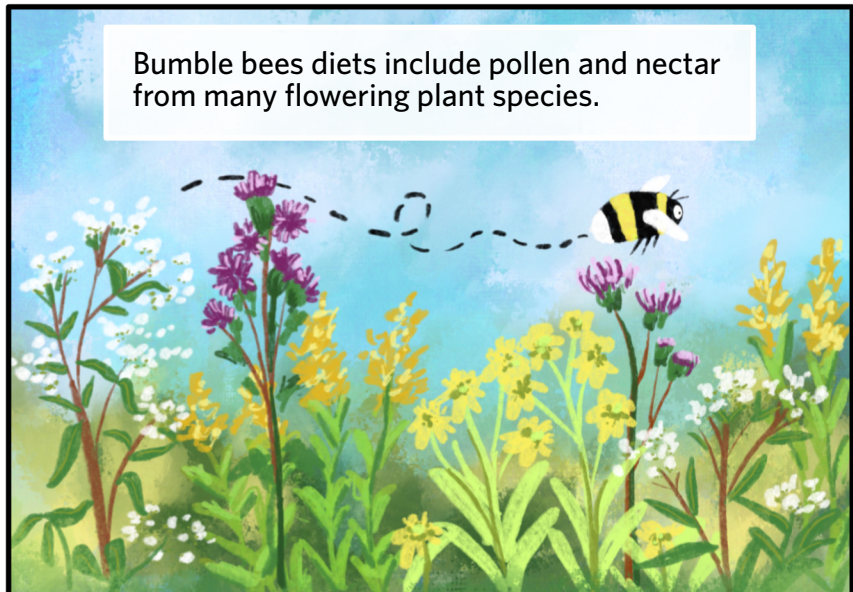
I've been collecting pollen for an hour! I don't mind the cold and wind.

Bumble bees use buzz pollination to collect pollen grains. They grab the flower and shake it by vibrating their wing muscles. Thousands of pollen grains are shaken off in less than a second!



Pollen is stored in a "pollen basket."

Bumble bees diets include pollen and nectar from many flowering plant species.



Thanks to bumble bees, many food crops can thrive.



Bumble bees are crucial to our food supply and for healthy ecosystems, yet habitat loss, climate change and pesticides are reducing their numbers.



Bumble bees encounter many challenges throughout their lifetime. This is best exemplified by a queen bumble bee's quest to establish and grow her colony.

stirring

rustling

buzz



(In the queen's winter hibernation spot)

Fooooood

Where should I set up my colony?

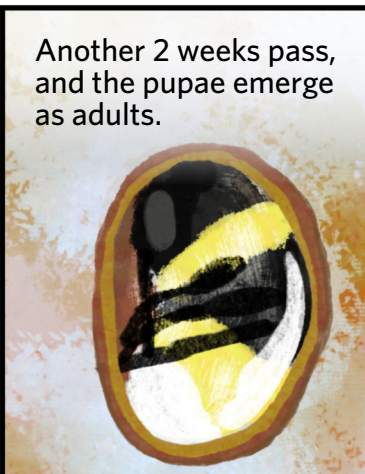
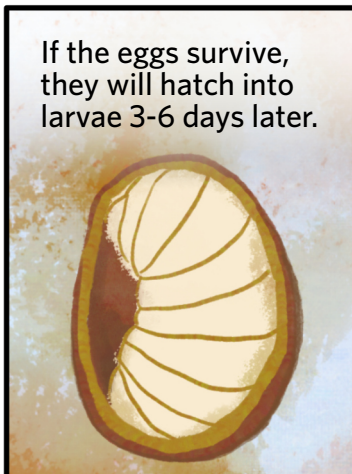
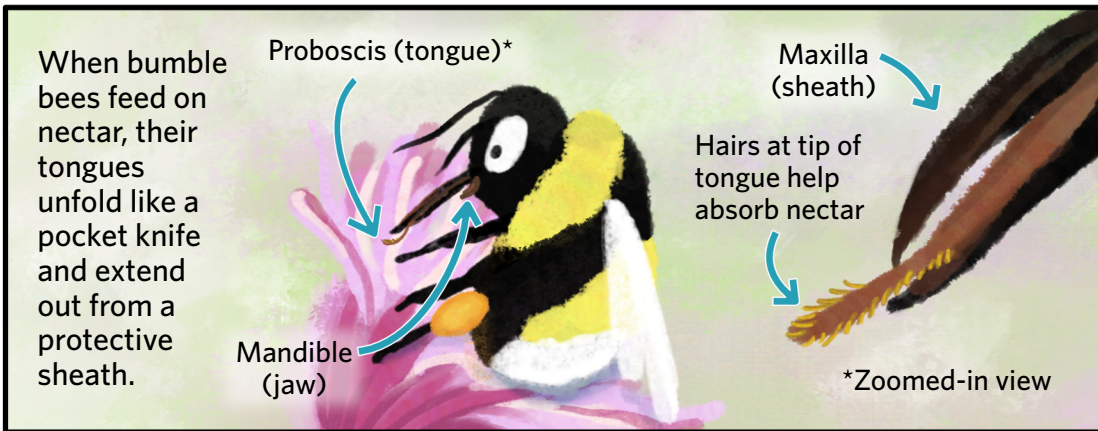
Ooh, a tasty snack.

Ahhh

Now this looks like a cozy spot.

Well that was a close call.





The first batch of eggs hatch into female workers that will take over collecting nectar and pollen, and feeding new larvae.



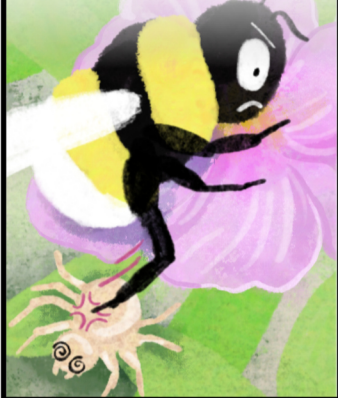
It is now summer, and the all-female colony continues to grow. Colonies range from 50 to 400 bees on average.



Workers perform various tasks. While some collect food, others tidy the nest and remove the dead.



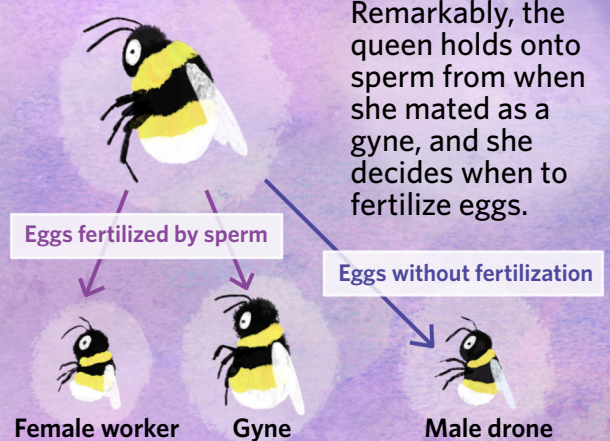
Some defend against predators...



...while others lose the battle.



Late summer marks the colony's final job: raise males and gynes (the future queens) before the hive dies out. Some workers may also lay male eggs.



Males are tasked with mating the gynes from other colonies.

Hey ladies, I'm single and ready to mingle. I was literally born to do this!



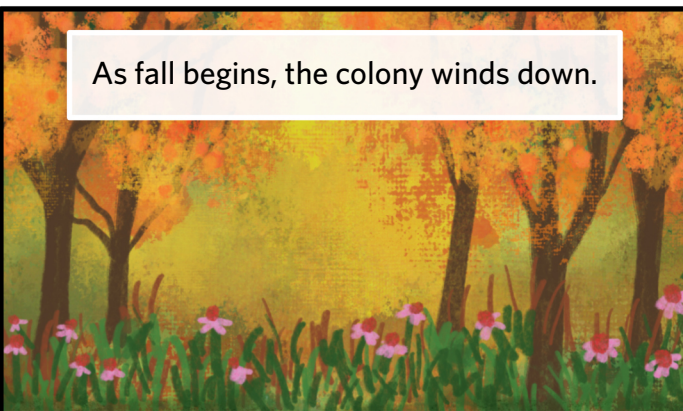
Meanwhile, the new gynes are provided more food than the workers and grow larger in comparison.

It is important for the future queens to store energy before winter begins.

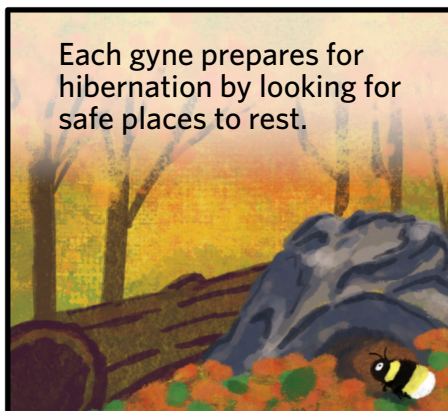


Gynes leave the colony to mate but return briefly before permanently leaving.

As fall begins, the colony winds down.



Each gyne prepares for hibernation by looking for safe places to rest.



Future generations of the colony now rest on the surviving gynes.

