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# Solitary Bees

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## DISTINCT FROM HONEYBEES AND VITAL TO THE SONORAN DESERT

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There is so much going on in the world that most of us know very little about. Solitary bees are rather unique to desert areas, and serve a major part in the life cycle of the plants on our desert. Solitary bees are just what the name says. They live single lives, unlike the more commonly known honeybees which were introduced into this country about three hundred years ago.

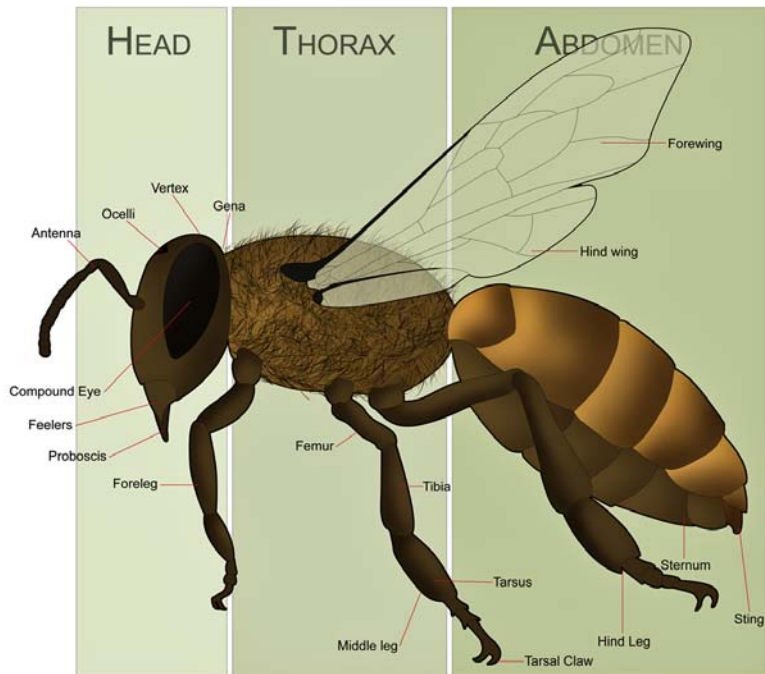
There are about one thousand different species of solitary bees in the Sonoran Desert. I find that number astounding. They serve a very important function in pollination of flowers. Most of us already know that. What is not commonly known is how they live. Most of them live in holes in the ground. Depending on the soil, the dens can be anywhere from six inches to many feet in depth. Sometimes bees are lucky and find satisfactory holes already made in trunks of dead trees. Most of the time though, they have to dig their own. Although solitary, many species “den” in a common area. When new adults emerge, the ground is literally dotted with small holes and bees. These areas can cover acres of land.



***Osmia ribifloris***  
[Wikipedia]

A female bee will generally build a branching network of tunnels. One egg will be laid at the end of each tunnel lined with a waxy substance to provide moisture and food for the hatching larvae. The larvae go through five separate stages of metamorphosing before emerging as adults.





**Morphology of a female honey bee**  
[Wikipedia]

A common parasite of the solitary bee is the blister beetle. Somehow the beetle is able to distinguish which of the bees are male. The beetle deposits its own larvae on male bees, which then pass them on to the females. When the egg of the bee is laid, it provides the larvae of the blister beetle with a ready host to feed upon.

Bees are a vital part of the ecosystem. Unfortunately, the widespread use of weed killers and insecticides is taking a toll. Many of the plants on the Sonoran desert rely on only one type of bee for

pollination. Kill that bee, and the plants connected to it also die. Since a single bee can visit thousands of flowers in its lifetime, it does not take mathematical genius to get an idea of the number of plants that can die.

The other factor in the decline in numbers of bees in this area is development itself. Unlike honeybees which can find sites for hives above ground, the solitary bees are losing their habitat because of loss of ground surface.

It may not seem important to keep the world safe for these unique insects, but for anyone who enjoyed the outstanding display of wildflowers we were blessed with the spring of 2001, think of how much less there would be if half of those varieties of flowers no longer existed because each variety lost its own species of solitary bee.



**Two honey bees are collecting pollen from Nightblooming Cereus**  
[Wikipedia]

