



Bees of Pinnacles National Park



Photos: Paul G. Johnson

When we think of bees, what often comes to mind are honeybees or bumblebees, but these represent less than two percent of the nearly 400 bee species found at Pinnacles National Park. Pinnacles supports the highest known bee diversity per unit area of any place on earth. The bees here range in size from a split pea to a peanut shell. They may be black, brown, bronze, metallic green or blue, or striped yellow and black. Some are social, working together as a hive to build a nest. But most are solitary, with each female building her own nest. Many visit flowers to collect pollen to feed their young, but about one in six species are cleptoparasites, meaning that they lay their eggs in the nests of other bee species. After the cleptoparasite young hatch, they eat the pollen intended for the other bee's young.

Diversity of Species



How do nearly 400 kinds of bees manage to fit into a place the size of Pinnacles, only 25 square miles in area, without getting in each other's way? They share! By partitioning the resources on which all bees depend, many different species can survive in a very small area. For example, most bees are active for only a small part of the year. Even though the bee season here lasts nine months, most species are out for less than two months. By chronologically staggering active times, more bee species can fit into the same area. Another

way many species of bees can coexist in a small space is to visit only certain species of flowers. About one-fourth of the Park's bees are such specialists, visiting only one species or a group of closely related species of flowers. Different bee species also nest in different places. Most build their nests in the ground or on rocks, and over one-fourth nest in stems or wood. Many have specific requirements for the type of ground, rocks, stems, or wood they build their nests in, and the materials, such as mud or

Bees and Native Vegetation



Bees visit many different kinds of flowers at Pinnacles, but certain flower species are far more frequently visited than others. Three of the plants here that are popular with a variety of bees are California buckwheat, deerweed, and woolly yerba santa. These plants thrive in areas that have been affected by natural

disturbance such as fire or flooding. Other popular bee flowers include California poppy, clarkia, Chinese houses, summer mustard, chamise, ceanothus, goldfields, popcorn flower, and willow.

Learning More About Bees



Many people visit Pinnacles to enjoy the diverse shows of wildflowers. Because bees pollinate many of our flowers and over time have allowed for a variety of floral structures, the wildflowers are, in part, a reflection of the abundance and diversity of bees. At least 260 species of bees have been seen along the 2.3-mile Old Pinnacles Trail alone. Researchers from Utah State University are currently working to identify even more species there

and throughout the rest of Pinnacles. So the next time you visit, take some time to notice the many different sizes, shapes, and colors of bees here. And as you appreciate the wildflower shows, thank the people who had the wisdom and foresight to set aside this wonderful area to remain in its natural state forever. And thank the bees, too.