

About Bees

Bees first appeared on Earth at least 80 million years ago. The ancestors of modern bee species lived alongside the dinosaurs - at a time when giant pines, cedars, tree ferns and cycads were the main plants and the air swarmed with primitive insects including oversized dragonflies and giant butterflies. During this time, the first flowering plants (angiosperms) appeared and a more effective way of pollination was needed, other than simply relying on the wind. The challenge was how to increase the chances of pollination and reproduction to ensure the success of future generations. The solution was to attract insects to assist with pollination. Over time flowers evolved a range of advertisements to attract pollinators, including bright colours, strong fragrances, interesting patterns and unusual shapes. They also developed sugar-rich nectar as a reward. Thus began the mutualistic relationship between flowering plants and bees and it was to change the appearance of the Earth forever. Now there are hundreds of thousands of species of flowering plants and they are the most successful land plants on Earth. Scientists have long chalked this up to the relationship between pollinators and their assistance in reproduction.



There are thousands of bee species that live around the world. The European honey bee is the best known as it produces honey, beeswax, propolis and royal jelly, which are all used in a range of ways. Interestingly, bees are the only insect that produce food eaten by humans. They are also the only animal that doesn't harm what it eats but actually enhances it.

Australia has 1700 native bee species that come in a range of sizes, the smallest being 2mm long and the largest being 24mm long. They also come in a range of colours, including red, yellow, black and iridescent green. Unlike the European honey bee, most native bees are solitary and don't store honey. Instead, they build their own individual nests in which to raise their young. Only 11 species of native bees are social, making and storing small amounts of honey for their own food.

While it is well known that bees produce honey, a lesser-known fact is that most of our other food sources also rely on bees, as conservative figures show that bees pollinate at least ONE mouthful in every THREE that we eat! The production of most fruit, nuts, vegetables, seeds and even livestock feed is dependent on the existence of bees, including Australian native bees. In addition, native bees (and other native pollinators) are crucial to our native flora, including wildflowers and other flowering plants.

When living things have relationships with other living things it is called 'symbiosis'. Bees and flowering plants have a mutually beneficial relationship whereby the bees assist with pollination and fertilisation of the plant and in return collect nectar and pollen not only for themselves but also to feed their young. Bees have a number of specialised adaptations that make them particularly good at carrying large volumes of pollen. They can visit many flowers before returning to their hive, which increases the success rate of fertilisation of the plants. Due to bees being excellent pollinators they play a pivotal role in farming, food production and the health of our ecosystems.

Threats To Bees

However, bees around the world, including in Australia, are in serious trouble. Overuse of pesticides and herbicides are causing bees to become more vulnerable to disease and pests. Modern agricultural practices and urbanisation are greatly reducing bee habitats and food sources. As a result, scientists are seeing a large decline in bee populations, including amongst native bees. This poses a threat not only to our food production but our environment as a whole, as flowering plants rely on pollinators to survive.

The good news is we can all do things to help ensure the survival of bees, such as:

- Plant 'bee-friendly' plants in clumps in your garden and let the vegetables flower. Bees love lavender, rosemary, sage, thyme, perennial basil, borage, grevilleas, bottlebrush and tea trees, whilst Eucalypts provide pollen and nectar for their food. This website has some useful information about plants that are suitable for bees and other insect pollinators.
- Use no pesticides or herbicides in your garden. For 'bee-friendly' pest management try companion planting.
- Before you buy, ask if plants have been treated with pesticides toxic to bees.
- Create 'bee-friendly' garden signs for your front garden to advertise what a 'bee-friendly' garden is.
- Put stones in bird baths to stop bees drowning.
- Buy fruit and vegetables that have been locally and sustainably grown.
- Buy local honey.

For more information, go to actforbees.org.

