



Mid-Atlantic  
Apicultural Research &  
Extension Consortium

Delaware, Maryland, New Jersey,  
Pennsylvania, West Virginia  
and the USDA cooperating

## MAAREC Publication 1.1 Revised July 2020

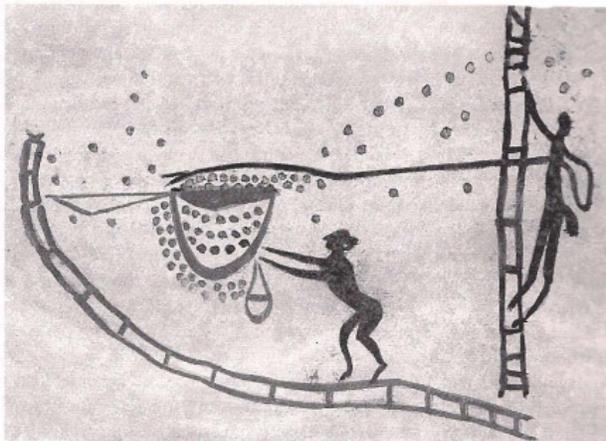
### Bees Are Beneficial

Honey bees are among the few insects that people regularly accept as beneficial. Our lack of familiarity with insects, and their damaging portrayal in popular culture, leads many people to be afraid of the insects that they come across in their daily lives. Sometimes, honey bees are also the object of these fears, because of negative encounters people have had with bees or other stinging insects.

By educating people about honey bee biology and the incredible benefits that bees have to offer us, these fears can be assuaged. It is critical that the keeping of bees in all types of landscapes be understood and appreciated by neighbors and the surrounding community.

#### A Bee-autiful History

Human interactions with bees date back about 9000 years. Daring individuals would climb steep rock faces to steal honey from the nests of cliff-dwelling bees like *Apis dorsata*. Since then, countless cultures have developed more mutualistic relationships with honey bees, offering shelter in constructed hives in exchange for a share of the sweet honey. The development of the Langstroth hive by L.L. Langstroth in the 19<sup>th</sup> century allowed beekeepers to harvest honey non-destructively with removable frames, which pleased bees and beekeepers alike.



Collecting honey: rock painting from the end of the Neolithic period,  
Pachamadhi, Central India



### You're Pollen My Leg!

Bees have always offered us more than just honey, however. Although it wasn't understood until the mid-1700s, bees have provided pollination services to us since the dawn of human agriculture. Other animals,

such as other insects, birds and even some mammals, also pollinate plants across the globe. Many flowering plants are reliant on animals to transport their reproductive cells (pollen) to other flowers. Current estimates suggest that nearly 9 in 10 flowering plants worldwide are dependent on insect pollinators.

The paid pollination industry is huge in America; farmers pay nearly \$320 million for professional pollination services each year. The total crop value from insect pollination is even more immense, at around \$15 billion a year.

Because honey bees are flower faithful (meaning they will visit and work one type of flower at a time), live in large social colonies and can be easily moved locations during bloom they are used to pollinate a huge variety of crops in the U.S., including tree fruits, vine fruits, nuts, melons, berries, vegetables, and even sunflowers! About one in every three bites of food in our diet is completely dependent on insect pollinators. Can you imagine what it would be like if we didn't have pollinators around?

## Bee Products

Honey is the star of the beekeeping industry. Around 75,000 tons of honey are harvested every year by beekeepers in the United States. Honey is used almost universally as a sweetener, but it has important medicinal properties. Aside from soothing a sore throat, honey can be used as a liquid antibacterial wound dressing! Some people use honey from local beekeeping operations to provide relief from seasonal allergies.

Although honey is the most well-known (and the most delicious) bee product, bees have many other excellent things to offer.

- Wax: Beeswax is commonly converted into candles but it has countless other uses as a lubricant or coating.
- Pollen: Pollen is used as protein supplement.
- Propolis: Propolis is a form of resin that bees gather to use as a hive sealant. This lesser-known bee product has strong medicinal qualities, and was historically used as a finishing agent for Stradivarius violins!
- Bee venom: Bee venom is collected and used to de-sensitize people who are deathly allergic to honey bee stings. Bee venom has also been used as a treatment to relieve symptoms of arthritis or MS (multiple sclerosis). Because bee venom can be dangerous, even to people who aren't allergic, bee venom therapy should only be performed by an experienced, licensed medical professional.



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University of Maryland  
College Park, Maryland

Rutgers University  
New Brunswick, New Jersey

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