KIBALE EXPLORER
The Kasiisi Project & Kibale Forest Schools Program

The Buzzzz on Honey Bees

The next time you eat a blueberry or a cherry, be sure to thank a bee. From almonds to cucumbers, bees pollinate one third of the nutritious fruits, vegetables, nuts and grains we enjoy.

Of the more 20,000 different kinds of bees, honey bees are probably the most widely known. They live in hives and make beeswax and the delicious honey that people and many animals love.

They're also incredibly important pollinators. When honey bees collect liquid nectar from a flower, pollen grains stick to the hairs on the bee's body. That pollen is carried to other flowers, helping them to reproduce. Without this transfer of pollen — known as pollination — flowering plants could not produce seeds or grow new plants.

It's not just the plants that benefit, the bee gets important nutrients from the nectar and pollen. The liquid nectar is returned to the hive where it's stored in honeycomb. The design of the honeycomb, along with constant fanning of the bees' wings, evaporates the water, to create honey, which is the honey bee colony's food supply. Thankfully hives produce extra honey, which for centuries has been harvested by people.

Teamwork Makes the Dream Work

Making honey requires teamwork, and in the colony, every bee has a special job. Most of the colony are female **workers**. As the name implies, they do it all. Young workers raise the young and older ones gather nectar and pollen. The only male bees are the **drones**. Smaller in number, their only job is to mate with the queen and they depend on their sisters to survive. Finally, each colony has a single **queen**, the largest bee and the mother of all the worker bees. Her only job is to lay eggs.

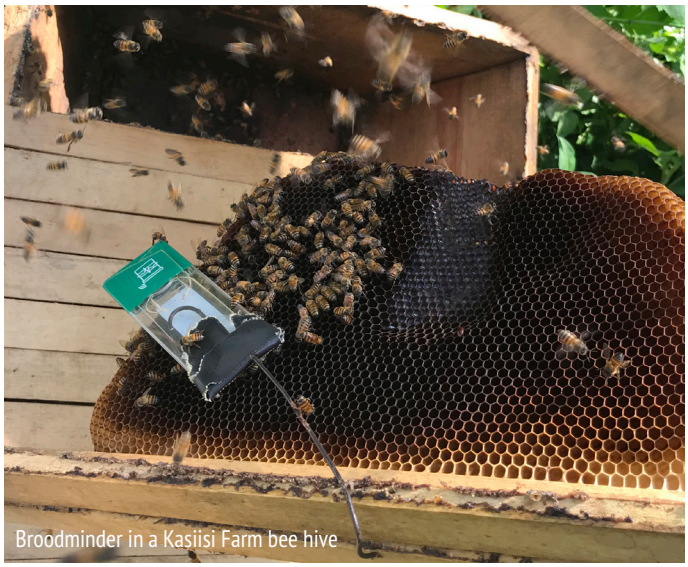
Would You Bee-lieve?

A honey bee can fly for up to 6 miles and as fast as 15 miles per hour. Its **wings stroke 11,400 times per minute**, which makes their unique buzzing sound.

Elephants, the largest animal on land, are afraid of tiny bees, so much so that **fences strung with beehives** can keep elephants from raiding farmers crops.

Bees see many colors, but they can't see red; however unlike humans, **honey bees can see ultraviolet light**. Many patterns on flowers are visible only to bees

Sealed **honey does not spoil, and stays preserved even after thousands of years**. Scientists believe it's because honey has very little water, is acidic and contains hydrogen peroxide.



Broodminder in a Kasiisi Farm bee hive

Hi-Tech Hives

To learn more about the health of our honey bees, the Kasiisi Project places special devices called **BroodMinders** inside of our hives. The small device takes hourly measurements of the hive's internal temperature and humidity, and sends this information to our phones. By tracking this type of hive data, we can monitor the health of our bees over time. And because we and others upload our information to the cloud, scientists and researchers can analyze and learn from honeybee hive data from around the world. Anyone can view information from our BroodMinder devices in Uganda at beecounted.org.

Engage

Planting a bee garden is a simple way to create and improve habitat for bees:

1. Choose native plants with colorful flowers
2. Plants with single flower tops — such as marigolds and daisies — produce more nectar and are easier for bees to access than double flower tops
3. Choose plants that flower during different seasons, so bees always have food
4. Very importantly, avoid using any pesticides or herbicides in your bee garden

Bees Get Thirsty Too!

For an extra special touch, add a bee bath. Fill a shallow container with water and add pebbles or sticks for the bees to land on while they drink.

Disappearing Bees

Sadly, one in four species of bees is at risk of extinction. Back in 2006, beekeepers discovered that honey bees in their hives were disappearing. Scientists call it "Colony Collapse Disorder" and it happens when the most of the hive's workers suddenly vanish. Without worker bees, the hives eventually die. But it's not just honey bees that are in trouble. Worldwide wild bees have been dying at an alarming rate. There are several possible reasons for these declines, including pesticides, habitat loss, parasites, diseases and climate change. The good news is there is a lot we can all do to help bees thrive!

The Kasiisi Farm

Explore

BeeBlitz

With your curiosity and a phone app called iNaturalist, you too can help track the health of your local bee populations. A BeeBlitz is a citizen science event in which ordinary people photograph and record as many bee species as possible in a specific area. You'll need a phone, the iNaturalist app and curiosity to participate. For more information on the BeeBlitz initiative, check out https://thehoneybeeconservancy.org/beeblitz/.

No phone? Create a field guide with drawings and descriptions of the bees you meet in your yard or neighborhood.

SHARE! We'd love to see and highlight your pollinator garden. Email photos to KibaleExplorer@gmail.com.