



# Solitary Bees

# Alkali Bee

The alkali bees of the Pacific Northwest region (Oregon, Washington, Idaho) are the only ground-nesting bees in the world managed by farmers.



Alfalfa

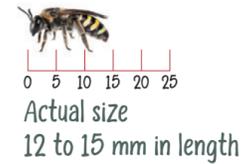


From the seed, farmers grow hay to feed many different types of animals. Even chickens like alfalfa hay!

Find the hidden pictures!

- Hen
- Egg
- shovel

**Genus: Nomia**  
(pronounced No-mi-a)



**Alkali bees**, like leafcutter bees, pollinate alfalfa flowers to make alfalfa seed. These bees nest in the ground and are very picky; they love salty, moist and crumbly soil. Some farmers have figured out how to create the same conditions on their farms that these bees like in the wild. At these sites, thousands of females build nests side-by-side, packing their nests with alfalfa pollen. After the females lay an egg, the hungry alkali bee larvae consume the pollen and complete their development underground.

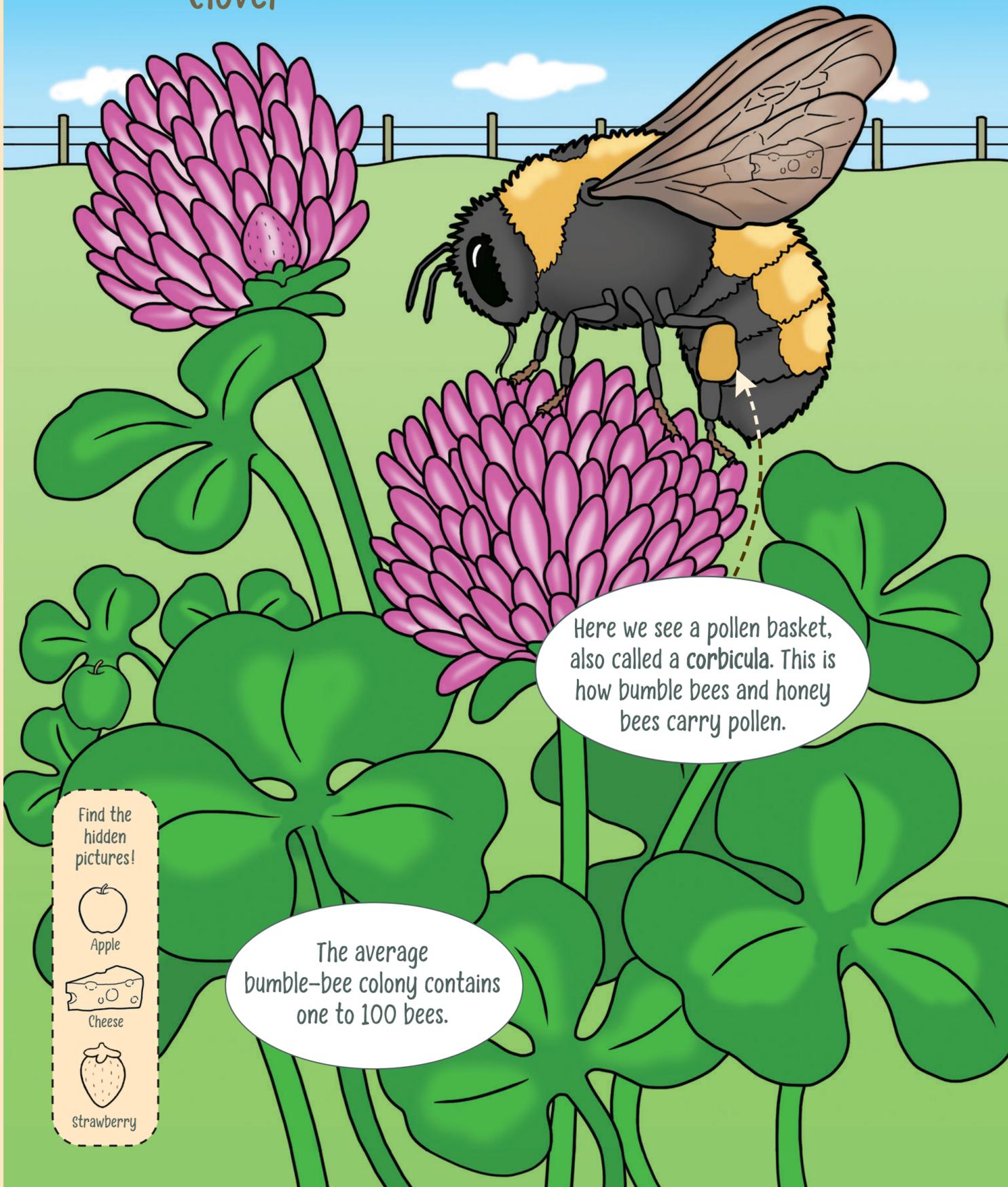
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A trait of this bee is that it makes its nest in the ground.  
Synonyms for ground include:

- earth
- dirt
- soil



Clover



Here we see a pollen basket, also called a corbicula. This is how bumble bees and honey bees carry pollen.

The average bumble-bee colony contains one to 100 bees.

- Find the hidden pictures!
-  Apple
  -  Cheese
  -  Strawberry



## Social Bees

# Bumble Bee

**Genus: *Bombus***  
(pronounced BOM-bus)



Actual size  
11 to 23 mm in length



Close up view



**Bumble bees** are important pollinators of many wild and **agricultural** plants (plants grown by farmers). Some of the crops they pollinate include cranberries and other berries, apples, tomatoes, peppers and squash. They are large and fuzzy bees, and their bodies are most often colored with a mixture of black, yellow, orange, brown or white hairs. In Oregon they are important pollinators of red clover. Oregon is one of the largest growers of clover seed in the world. Farmers buy the seed to grow clover plants, which are fed to cows and other livestock (animals raised on a farm) that give us milk, cheese, yogurt, eggs, meat and more.

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 A trait of this bee is that it is large.  
Synonyms for large include:

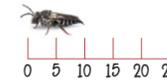
- big
- gigantic
- huge





# Cuckoo Bee

**Genus: *Nomada***  
(pronounced no-MA-da)



Actual size  
6 to 12 mm in length



Close up view



**Cuckoo bees** don't **forage** for pollen. They have found a way to steal it. When a *Nomada* female **reproduces** (has babies), she looks for a nest that is being built by a female bee closely related to her. Once she finds a nest, she waits for the female bee who made it to go forage. Then she sneaks inside and quickly lays her own eggs, right next to some of the other bee's eggs. Each of her eggs will hatch into a larva (the early stage of a bee that looks like a caterpillar), destroy the offspring of the other female and eat pollen left by the female who made the nest. Cuckoo bees got their name from **cuckoo birds**, which lay their eggs in other birds' nests.

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A trait of this bee is that it is **sneaky**.  
Synonyms for **sneaky** include:  
-tricky  
-sly  
-devious



Cuckoo bees have evolved over time without any pollen-carrying structure. Since they steal their pollen, they don't need to carry it on their body.

Not all bees are pollinators or help make food. Cuckoo bees are **cleptoparasites**. **Clepto** means "to steal" and a parasite is a living creature that feeds off another living creature.

Cuckoo bees often look more like wasps than bees. They can be red, yellow, brown or black and often have spines and ridges on their bodies.

Find the hidden pictures!



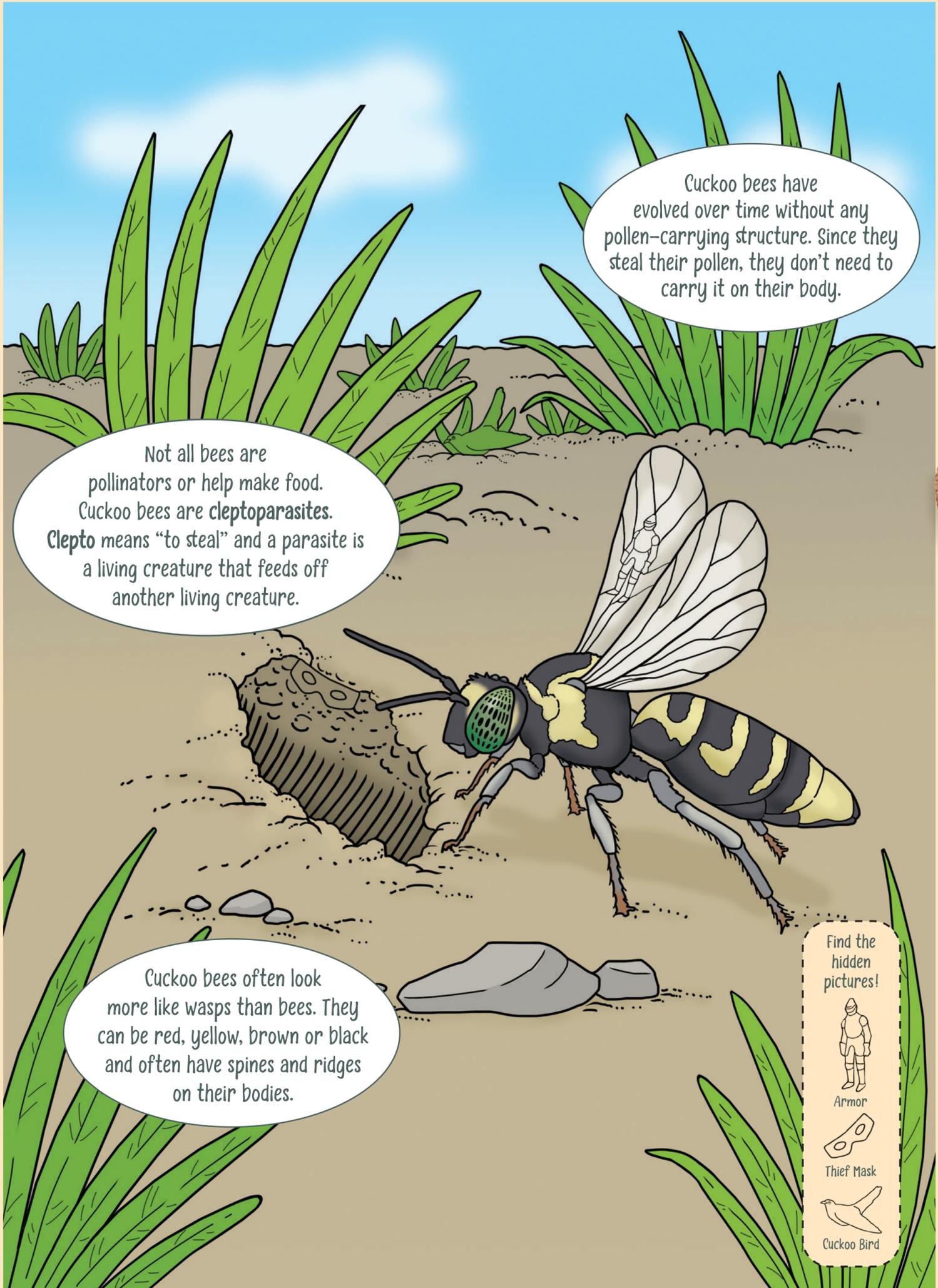
Armor



Thief Mask



Cuckoo Bird

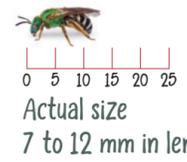


# Solitary and Social Bees

## Green Metallic Sweat Bee



**Genus: Agapostemon**  
(pronounced a-ga-POSS-ta-mon)



**Green metallic sweat bees** pollinate the flowers of many **cultivated** plants (plants grown on purpose) as well as many wildflowers. Sweat bees have been given this name because they lick the sweat of mammals as a way to add salt to their diet. They are medium-sized and have a bright metallic green color. These bees love open and flat-shaped flowers such as daisies, dandelions, wild roses, and blackberry and apple blossoms. They love purple asters, a plant grown by many Oregon **nurseries** (places where plants are grown on purpose).

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Metallic sweat bees carry pollen on their hind legs.

Growing flowers in your community helps the bees that make your food.

- Find the hidden pictures!
-  Dandelion
  -  Salt Shaker
  -  Cilantro

A trait of this bee that it is **bright** in color.  
Synonyms for **bright** include:  
-sparkling  
-glittering  
-brilliant



Find the hidden pictures!



Carrot seed packet

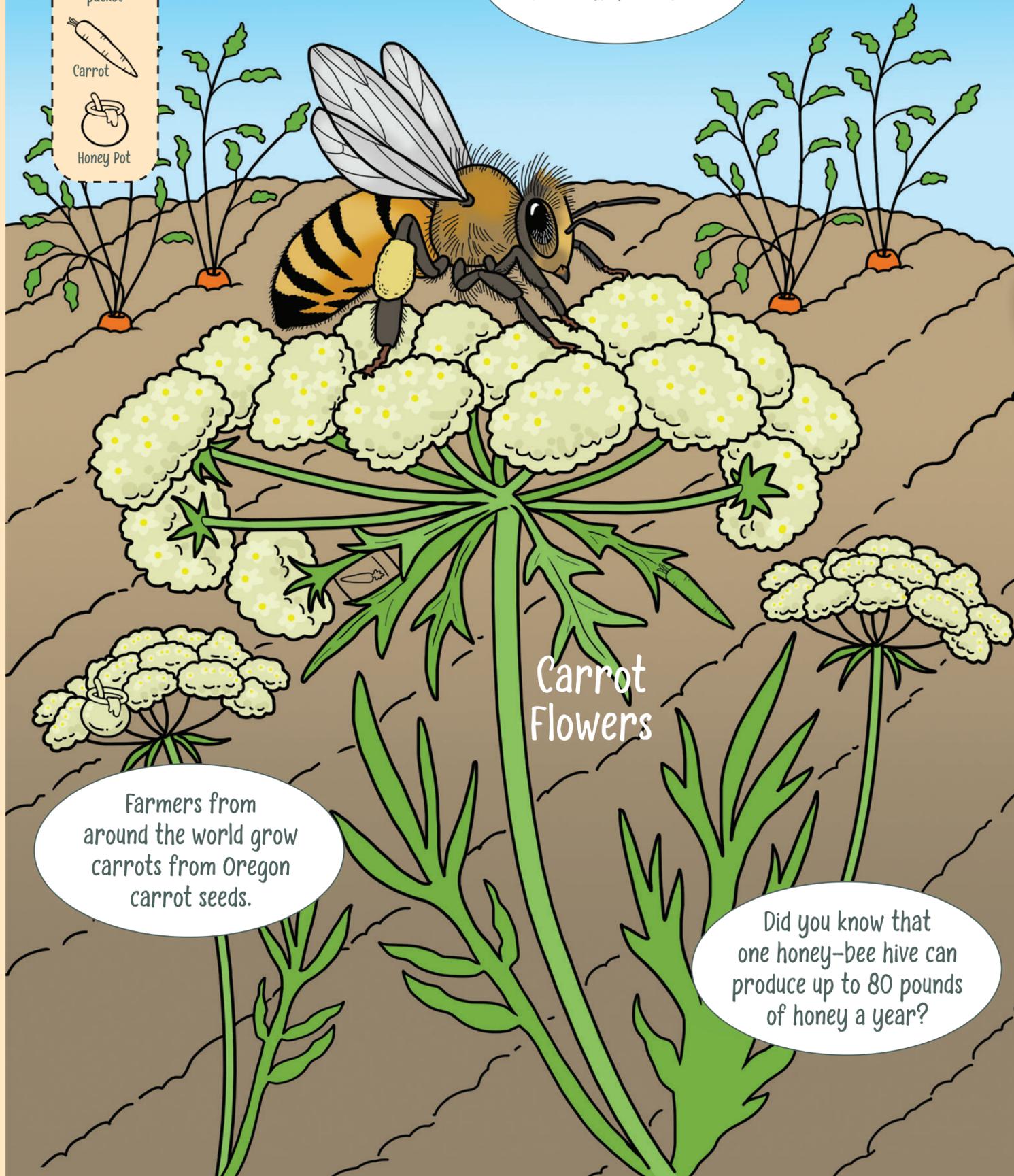


Carrot



Honey Pot

The average honey-bee hive contains around 25,000 bees.



Carrot Flowers

Farmers from around the world grow carrots from Oregon carrot seeds.

Did you know that one honey-bee hive can produce up to 80 pounds of honey a year?



## Social Bees

# Honey Bee

**Genus: Apis**  
(pronounced A-pis)



Actual size  
12 to 15 mm in length



Close up view



**Field Notes:** Honey bees are pollinators of agricultural crops worldwide. That's because they pollinate many different types of plants (some other bee species are very picky eaters), and they are easy to manage. For hundreds of years, beekeepers have known how to raise them in portable nests that they can move from field to field. Honey bees make tasty honey, too, which is how they got their name. They are medium-sized bees that range in color from black to pale yellow. Colonizing Europeans brought honey bees to North America starting in the 1620s. In Oregon, they are one of the only pollinators of carrots, which Oregon farmers mainly grow not for the vegetable, but for the seeds produced by carrot flowers.

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A trait of these bees is that they are easy to manage. Synonyms for manage include:  
-oversee  
-maintain  
-supervise

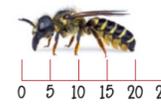


## Solitary Bees

# Leafcutter Bee



**Genus: Megachile**  
(pronounced mega-KY-lee)



Actual size  
6 to 22 mm in length

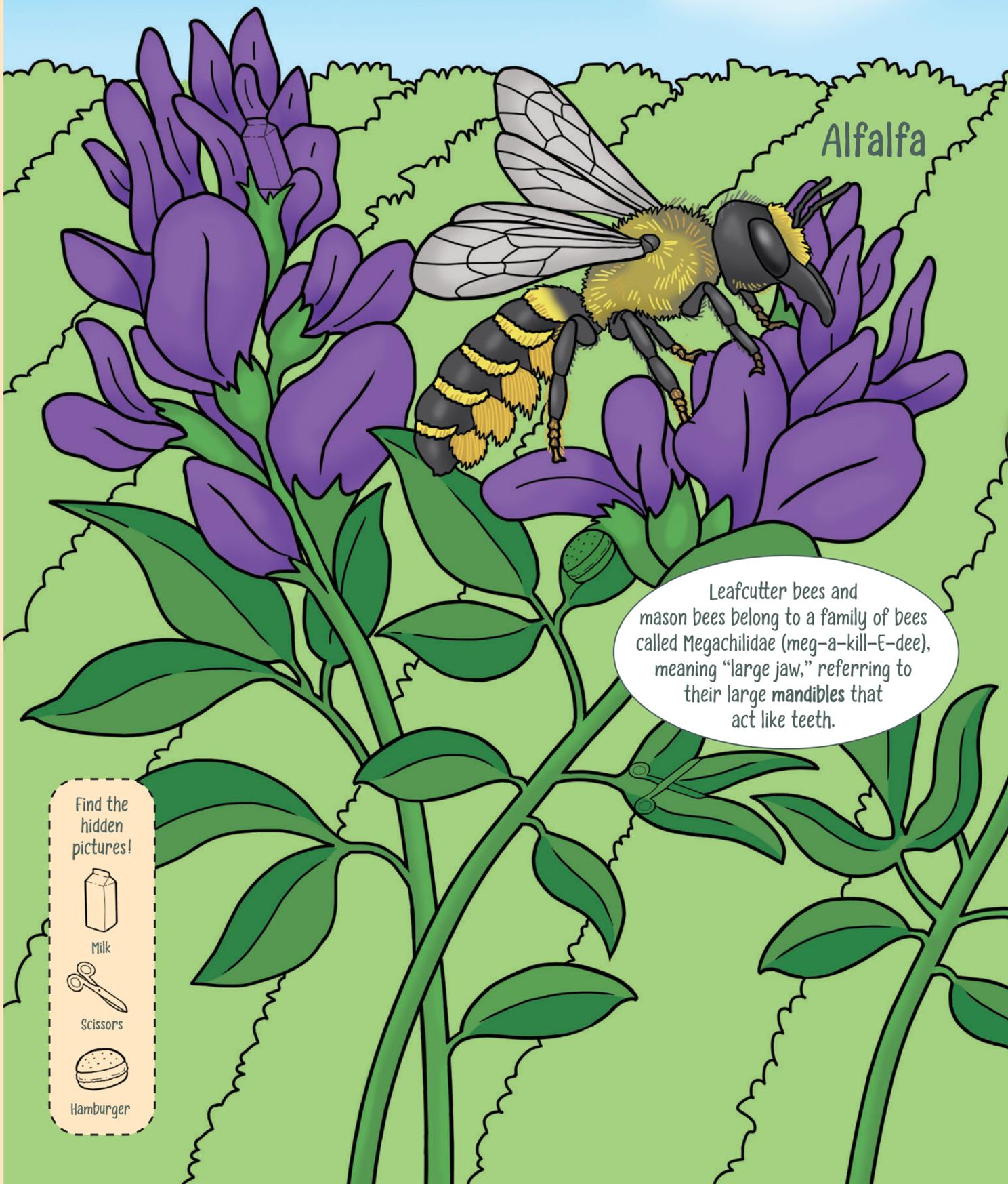


Close up view

### Field Notes:

**Leafcutter bees** are pollinators of alfalfa and many wild plants. They are called leafcutter bees because they cut out small pieces of leaves to use to build their nests. Leafcutter bees are darkly colored, small to medium-sized bees. In Oregon, they are important pollinators of alfalfa grown for seed. Farmers buy the seed to grow alfalfa plants, which are fed to cows and other **livestock** (animals raised on a farm) that give us milk, cheese, yogurt, eggs, meat and more.

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Leafcutter bees and mason bees belong to a family of bees called Megachilidae (meg-a-kill-E-dee), meaning "large jaw," referring to their large mandibles that act like teeth.

Find the hidden pictures!



Milk



Scissors



Hamburger

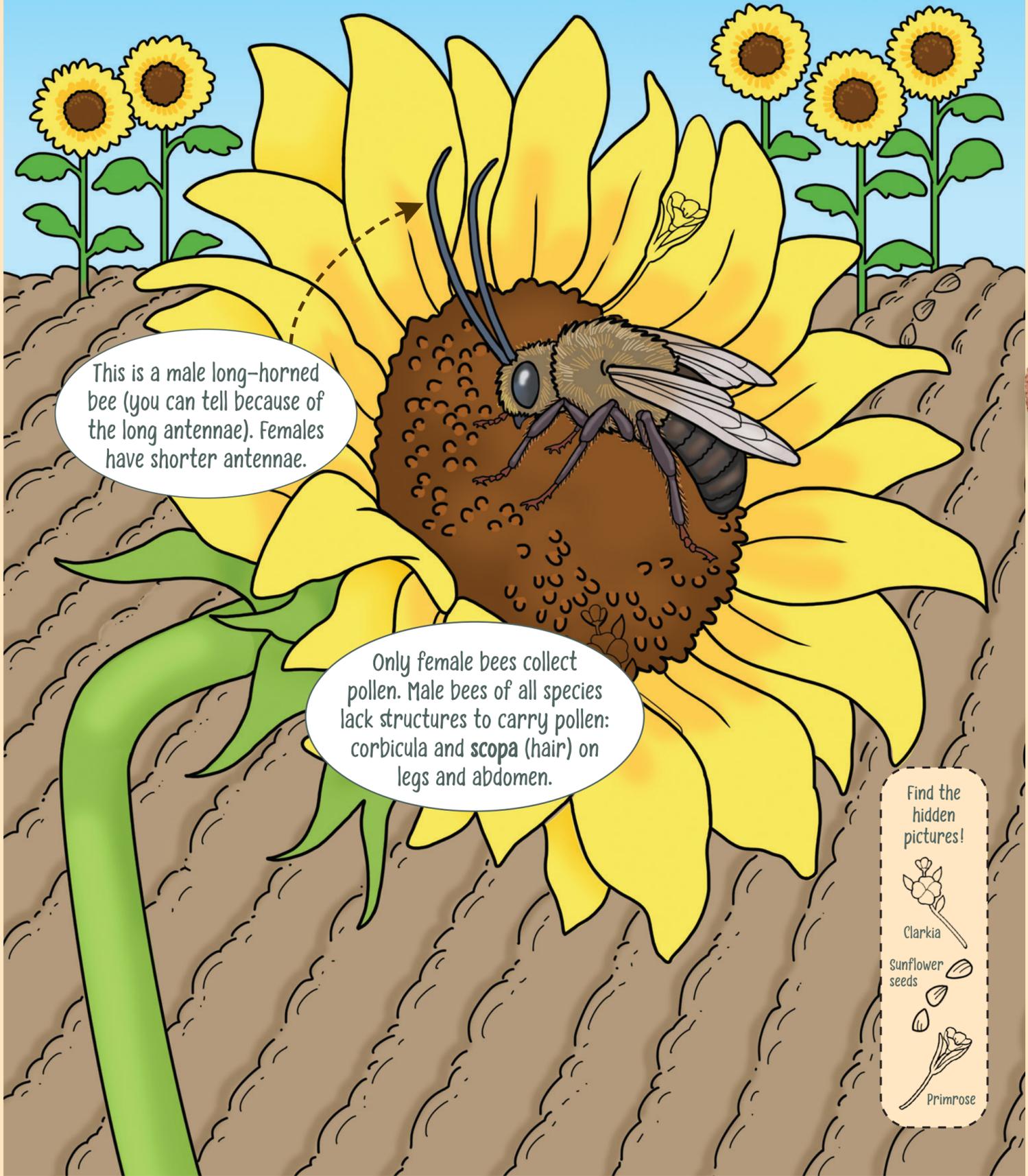


A trait of this bee is that it can cut leaves to make its nest.  
Synonyms for cut include:

- tear
- slice
- slit



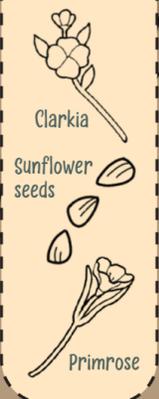
Sunflowers



This is a male long-horned bee (you can tell because of the long antennae). Females have shorter antennae.

Only female bees collect pollen. Male bees of all species lack structures to carry pollen: corbicula and scopa (hair) on legs and abdomen.

Find the hidden pictures!

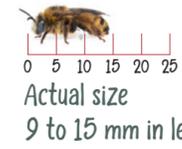


# Solitary Bees

# Long-Horned Bees



**Genus: *Melissodes***  
(pronounced me-leh-SOH-des)



**Field Notes:** Long-horned bees are beautiful medium-sized bees that are very fuzzy. They are dark with yellow, black or white hairs. Males have long **antennae** (horns) like the bee shown. Females have large, brush-like hairs on their back legs that they use to carry pollen. Bees in the genus *Melissodes* like to visit plants in the sunflower family the most. They also visit a number of native plants. Planting sunflowers in your community, and watching the blooms, is the best way to find these bees in Oregon.

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😊  
A trait of this bee is that it is beautiful.  
Synonyms for beautiful include:  
- gorgeous  
- good-looking  
- attractive



Find the hidden pictures!



Almond



Cherry



Trowel



Cherry Flowers

Mason bees carry pollen on special hairs on their abdomen.

Notice that this bee has purple pollen on its abdomen! Pollen comes in all the colors of the rainbow: red, orange, yellow, green, blue and purple. It can even be white!

Photograph by Steve Peterson



# Solitary Bees

# Mason Bee

**Genus: Osmia**  
(pronounced OZ-me-a)



Actual size  
11 to 14 mm in length



Close up view



Some **mason bees** are pollinators of almonds, apples, blueberries, raspberries, and cherries, as well as many wild plants. They are called mason bees because they use mud or clay to build their nests, just like a mason, which is someone who uses bricks and mortar to build homes and other buildings. They are small to medium-sized bees that are colored in bright metallic blues and greens and sometimes black. In Oregon, they are most often used to pollinate cherries. They work quickly: under some conditions one female mason bee can pollinate three times the amount of flowers as a single honey bee in the same amount of time.

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A trait of this bee is that it is a fast pollinator.  
Synonyms for fast include:  
-quick  
-rapid  
-speedy





# Solitary Bees

# Squash Bee

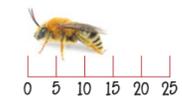


Female squash bees collect pollen on thick, brushy **scopa** (hair) on their back legs.

Although other bees can pollinate squash plants, squash bees are some of the only bees that can fully digest squash pollen.



**Genus: Peponapis**  
(pronounced pep-on-A-pis)



Actual size  
11 to 14 mm in length

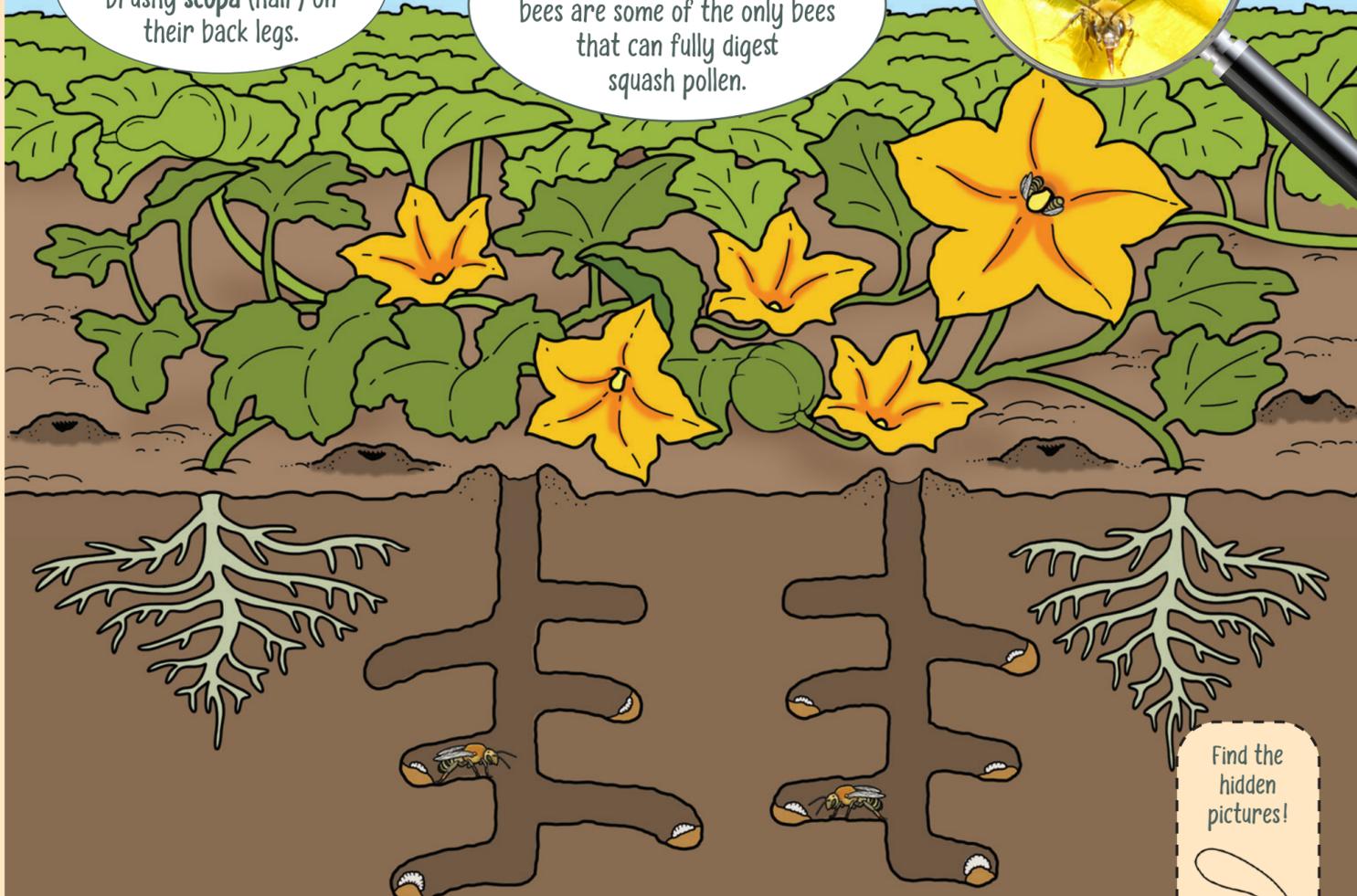


Close up view



**Squash bees** found in Oregon are medium sized, fuzzy bees that feed only on the pollen of plants in the squash family (squashes, pumpkins, and gourds). They spend their whole lives around the plants they pollinate. They nest in the ground beneath squash plants and even sleep inside squash blossoms. In fact, the best way to find squash bees is by looking inside squash blossoms in the cool of the morning when the bees are still asleep. Squash bees are new to Oregon and are still making their way around. Can you find squash bees in your community?

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Find the hidden pictures!



Zucchini



Gourd



Pumpkin

A trait of this bee is that it is fuzzy.  
Synonyms for fuzzy include:  
-furry  
-hairy  
-bushy

