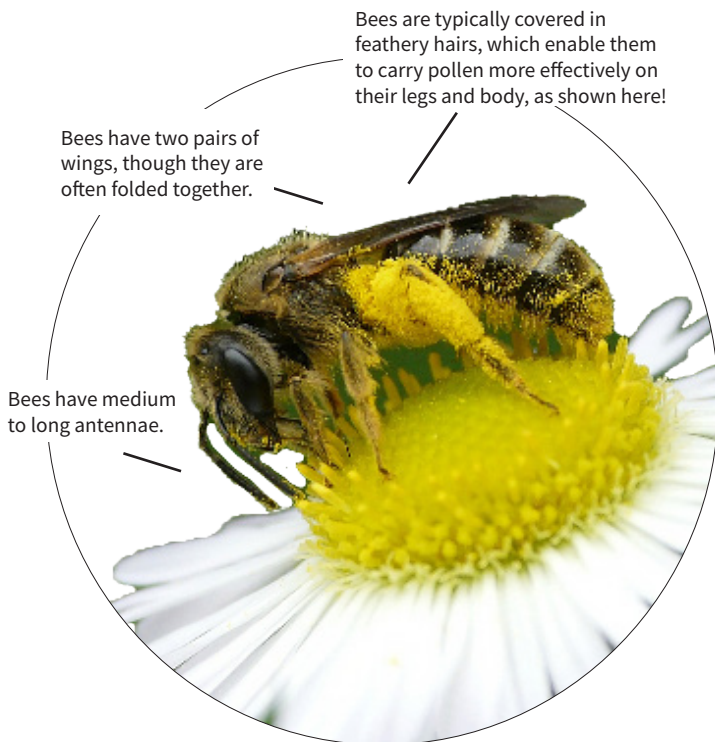


Bee ID Guide for the **WiBee** App

Using the *WiBee* app, you will be categorizing the bees you observe visiting flowers into only **five broad morphogroups**: the **honey bee**, **bumble bees**, **large dark bees**, **small dark bees**, and **metallic green bees**. (There are over 400 species of native, wild bees in Wisconsin). Different bee species prefer different flowers and are pollinating at different times of the day and the growing season, so the bees you see throughout the season will vary!



HOW TO CATEGORIZE A FLORAL VISITOR:

1. Is it a bee or non-bee?

- » The most common mistake is mis-identifying a bee as a different insect (like a wasp or fly). Is the insect hairy and carrying pollen on its hind legs or body? Does it seem “busy”? If yes, it’s likely a bee.

2. What size is the bee?

- » Is the bee large (1/2 inch long or more) or small (less than 1/2 inch long)? If it’s a large bee, for example, you need to identify whether it is a *bumble bee*, *honey bee* or a *large dark bee*.

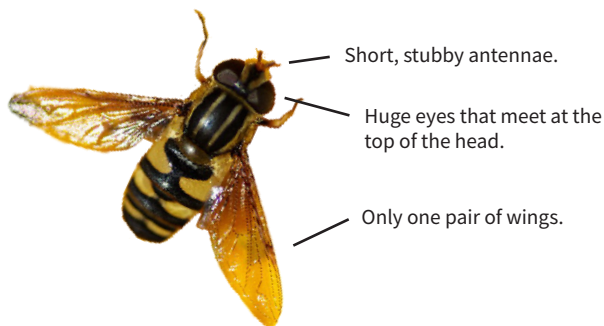
3. What are the bee’s markings?

- » Is the bee a metallic green color (*green bee*)? Does it have dense hairs covering its entire body (*bumble bee*)? Is it honey-colored with a striped abdomen (*honey bee*)?

A FEW **NON-BEE** POLLINATORS:

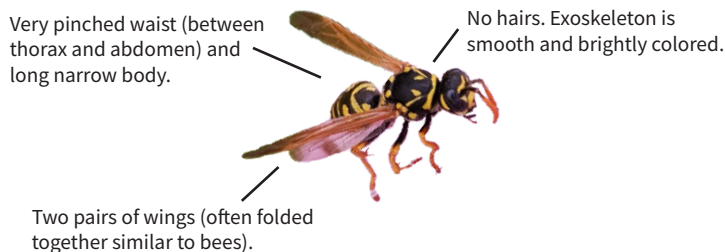
Fly

Behavior to look for: Flies hover very steadily. Bees don’t hover.



Wasp

Behavior to look for: Wasps may take their time collecting flower nectar. Bees tend to move deliberately and quickly.



1 species in Wisconsin

Apis mellifera
Family: Apidae

- » Medium to large size.
- » Striped abdomen and heart-shaped face.
- » Honey-colored, brown with some black.
- » Pollen in tight balls on back legs.



Body size: ~ 1/2 inch long



European honey bees are not native to Wisconsin and typically require human-managed hives to survive in our state. Like bumble bees, they are social but honey bees live in very large hives with up to 60,000 bees. Research has shown that honey bees are less efficient pollinators compared to native wild bees.

LARGE DARK BEE

100+ species in Wisconsin

Family: Apidae, Andrenidae, Colletidae, Halictidae, Megachilidae...

- » Medium to large size (honey bee size or larger).
- » Abdomen striped or solid.
- » Dark brown, black or deep blue colored. Can have light-colored hair on body.



Body size: Over 1/2 inch long



Leafcutter bee



Mining bee

This diverse group of solitary bees includes mining bees, mason bees, and leafcutter bees, and they each have very different nesting and foraging behaviors. A mining bee, for example, will nest in underground tunnels. A mason bee will often find a hollow stem or beetle burrow where she builds her nest.

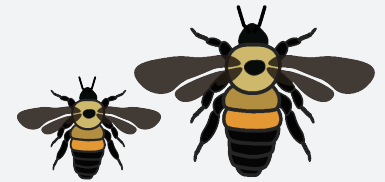
BUMBLE BEE

20 species in Wisconsin

Bombus spp.

Family: Apidae

- » Large to very large size.
- » Dense hair covers entire body.
- » Black & yellow coloring. A few species have brown/orange patches.
- » Pollen in tight balls on leg.



Body size: 1/2 to 1 inch long
(Markings vary by species)



Bumble bee



Bumble bee

Due to their large size and dense hair, bumble bees can fly and pollinate in cooler temperatures and carry more pollen than other bees. They are also active the entire length of the growing season, from April to October. Bumble bees are social, living in colonies below ground with anywhere from 50 to 500 individuals.

SMALL DARK BEE

100+ species in Wisconsin

Family: Andrenidae, Apidae, Colletidae, Halictidae...

- » Tiny to small (ant size or smaller).
- » Brown, black, or golden colored.
- » Hairs are much smaller and less noticeable. Bodies narrower.



Body size: ~ less than 1/4 inch long



Carpenter bee



Sweat bee

This group of tiny to small solitary bees includes many species of sweat bees, carpenter bees, and more. Look for them crawling around inside flowers. A carpenter bee will create her nest in woody stems and twigs while other bee species will excavate a nest in the ground.

GREEN BEE

9 species in Wisconsin

Agapostemon spp., *Augochlora* spp., *Augochlorella* spp., *Augochloropsis* spp.

Family: Halictidae

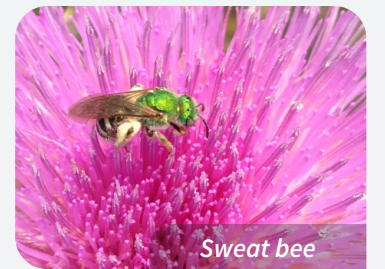
- » Tiny to small (ant size or smaller).
- » Metallic green on all or part of body.
- » May have striped yellow & black abdomen. Bodies narrower.



Body size: ~ less than 1/4 inch long



Sweat bee



Sweat bee

These solitary sweat bees are very small but stand out due to their bright coloring. They are generalists, visiting many different types of flowers, and you can see them carrying pollen on their hind legs. They nest in the ground, and are most active summer and fall.

Credits: This publication was designed by Katy Thostenson at the University of Wisconsin-Madison Department of Entomology. Photos and illustrations were provided by Ben Bradford, Jeremy Hemberger, Katy Thostenson and the following sources from Wikimedia Commons and iNaturalist: Andrew C, Allan King, Coniferconifer from Japan, Melissa McMasters, Chuck Spidell, Richard Stovall, David Whelan, USFWS Mountain-Prairie and Wayne National Forest.

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