

## WiBee Pollinator Categories



Bumble Bee



Honey Bee



Large Dark Bee



Small Dark Bee



Green Bee



Non-Bee Pollinators

**WISCONSIN  
BEE INFORMATION**

# WIBEE APP

UW-Madison citizen/community science app to start mapping bee species and abundance over short periods.

<https://pollinators.wisc.edu/wibee/>

Uses a broad identification method.

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## WiBee: The Wisconsin Wild Bee App



### What is The WiBee App?

WiBee (*pronounced We-bee*) is a new smartphone app developed by the [Gratton Lab](#) at the University of Wisconsin-Madison. We invite growers and interested community members to use the app during the growing season to collect high quality data on wild bee abundance and diversity on Wisconsin's fruit and vegetable farms, as well as non-crop habitats.

With your help, we can provide growers with better pollination management recommendations specific to individual farms and share more information about the diversity, abundance and value of Wisconsin's wild bees.

### Download the App



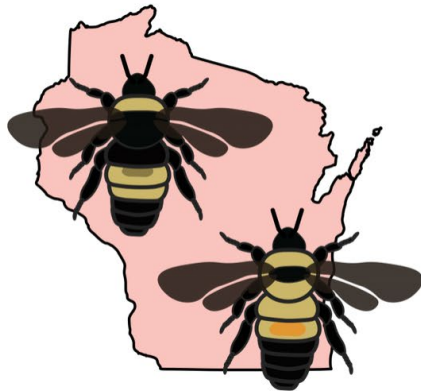
The WiBee App is publicly available

# UW GRATTON LAB BUMBLE BEES

<https://wisconsinbumblebees.entomology.wisc.edu/>



Welcome to the online guide to the bumble bees of Wisconsin!



## Familiar, fuzzy friends

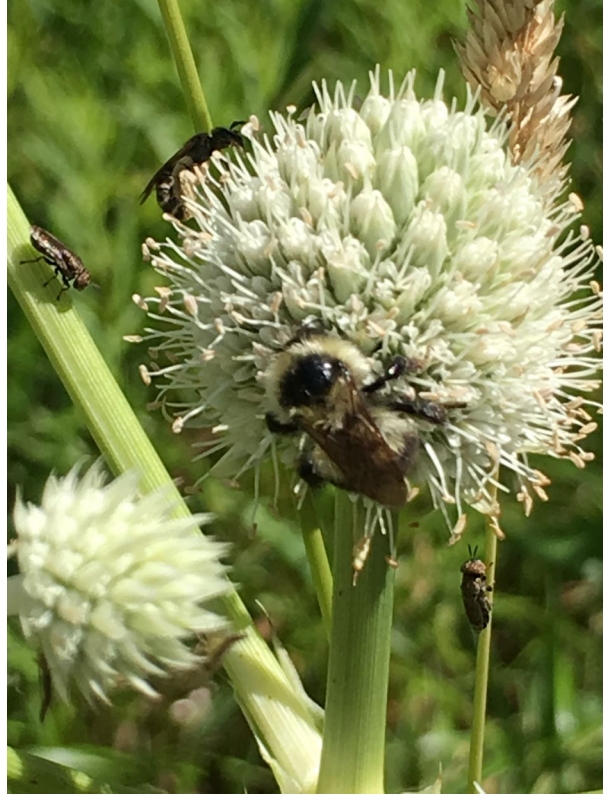
Bumble bees are important pollinators that usher in the start of spring and remind us of bright, warm summer days. In recent years, several of the species that occur in Wisconsin and the Midwest have been in [decline](#). A host of factors including loss of flowers, expanding agriculture, diseases and parasites, as well as altered weather patterns have all taken their toll on these essential insects.

This website is meant to help share the fascinating [life history](#) and biology of bumbles, as well as teach how to [identify](#) and [conserve](#) them here in Wisconsin. Additionally, consider getting involved in bumble bee [citizen science](#) projects to help collect vital data for scientists across the region.

# Why Care About Native Bees?

- They are pollinators of food, cultivated and native plants.
- Bees are the most important and efficient pollinator.





# Native Bee Nesting

Native solitary bees nest by digging in the ground or in cavities they find or create.

Each egg gets a separate cell partition. The cells are lined with different materials depending on the species of bee.

The female bees gather nectar and pollen to create “bee bread” and lay a single egg there. The larva and pupa develop in that cell.

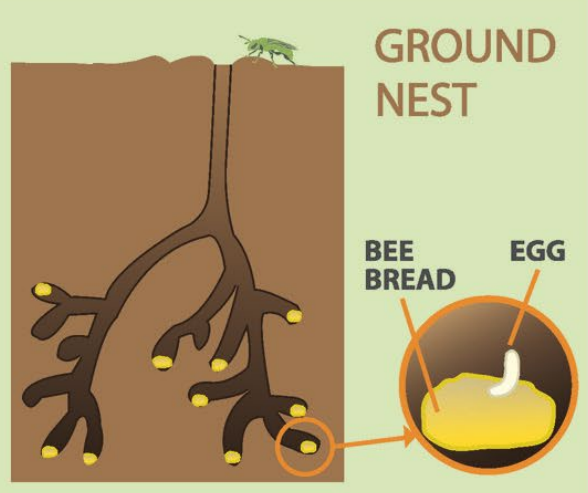


# GROUND-NESTING NATIVE BEES



Mining Bees, *Andrena* spp.

Cellophane Bees, *Colletes* spp.



Green Sweat Bees  
*Agapostemon* spp.

Sweat Bees  
*Halictus* spp.

Small Sweat Bees, *Lasioglossum* spp.



Shown: *A. terminalis* nests in rotting wood  
All other *Anthophora* nest in the ground



Long-Horned Bees, *Melissodes* spp.

Digger Bees, *Anthophora* spp.

# Solitary Native Bee Life Cycle

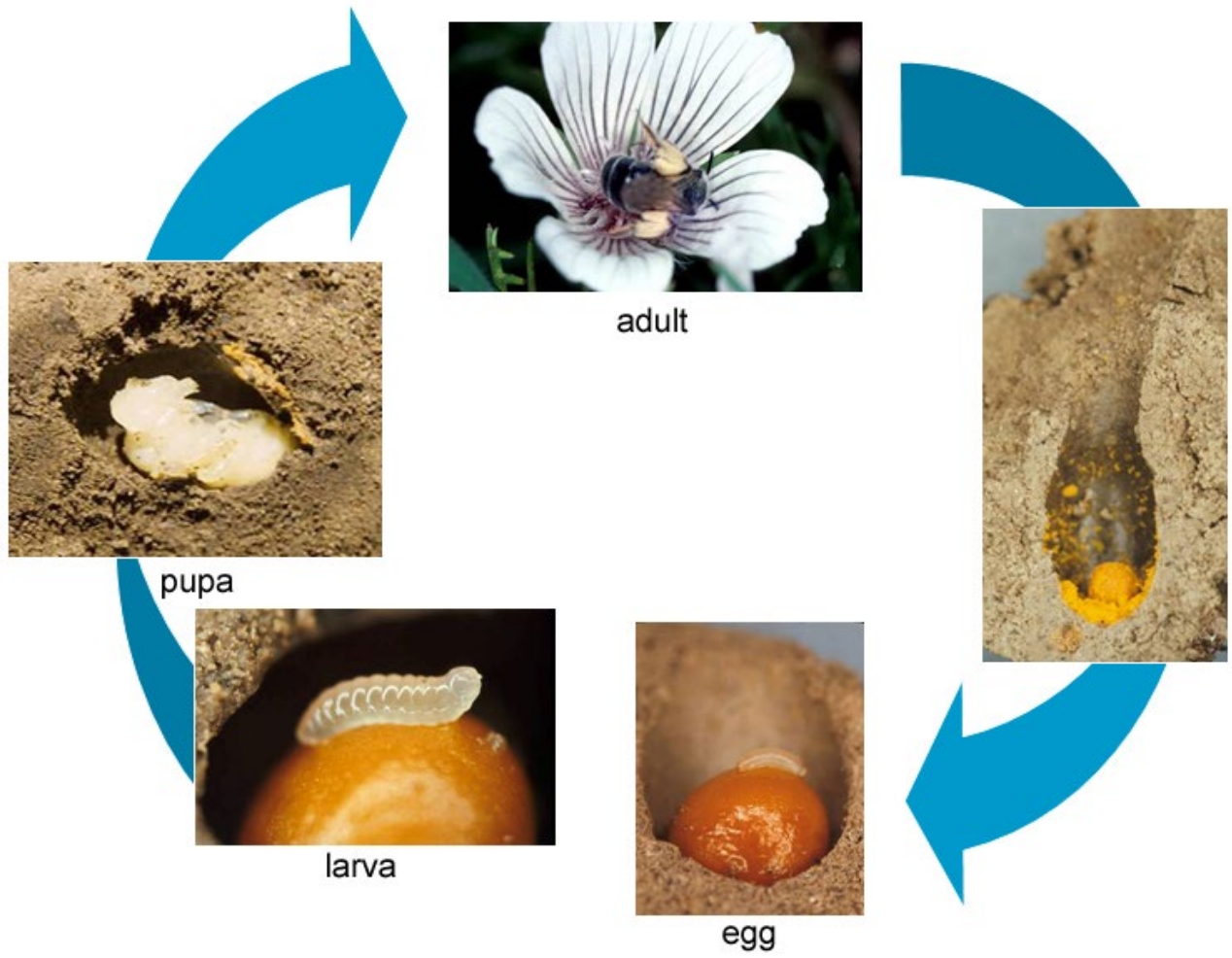
85-90% of native bees are solitary and do not have a social nest. Each female bee creates and provisions her own nests.

Most have an annual life cycle that takes a full year between egg laying and emergence of adult bees.

Male bees emerge before females. Their sole purpose is to mate. They typically have short lives and do not have stingers.







**From the Xerces Society**

# Native Bees

There are about 4,000 species of bees and about 400-500 in Wisconsin.

12-14 bumble bee species found in southern Wisconsin, including rusty patched.

Worker Rusty Patched BB



Queen Rusty Patched BB





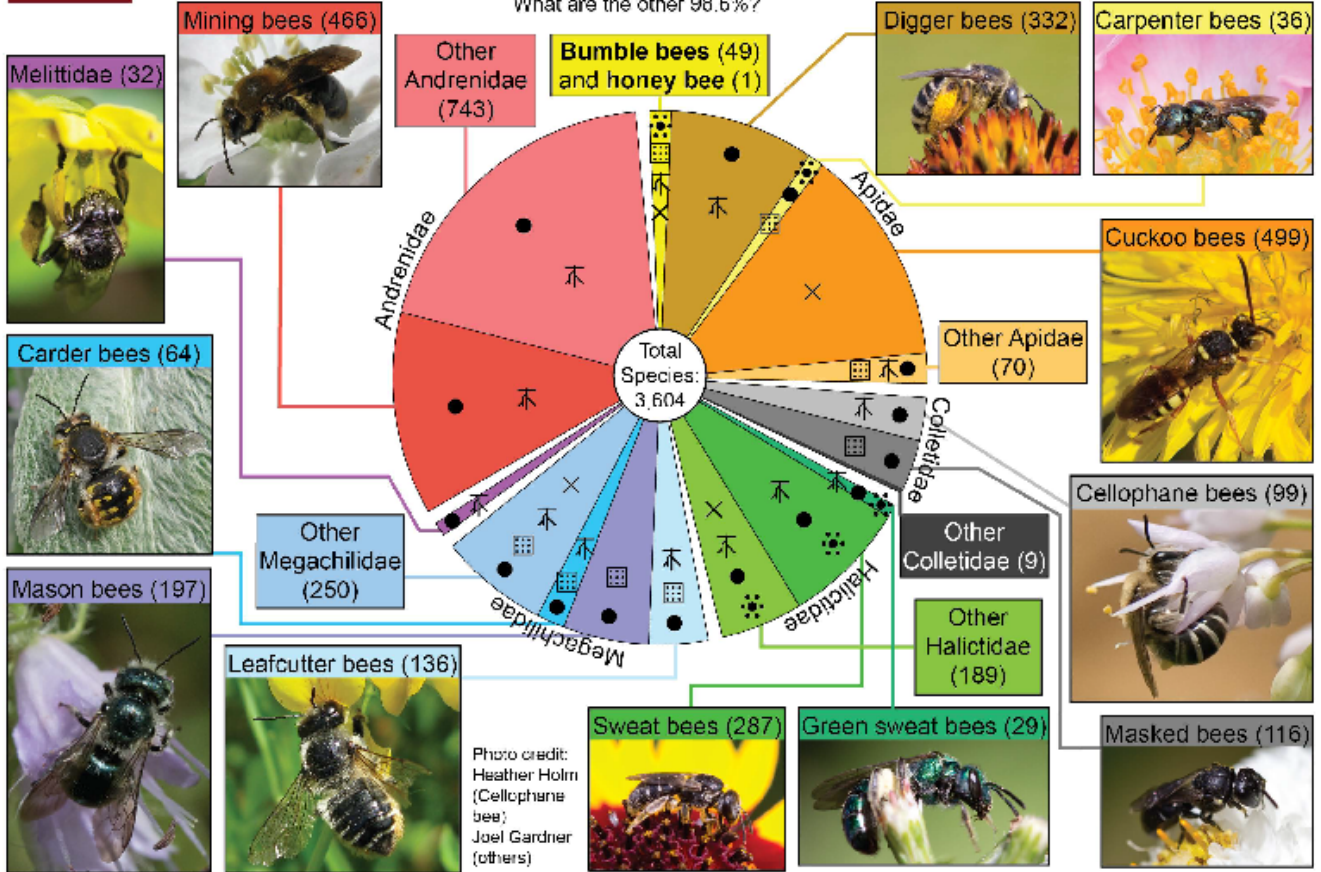
Data source: Aechter and  
Flöckner 2014  
DiscoverLife bee species  
guide and world checklist.  
[http://www.discoverlife.org/  
mp/20q?guide=Apidae\\_39](http://www.discoverlife.org/mp/20q?guide=Apidae_39)  
hairs

[www.BeeLab.umn.edu](http://www.BeeLab.umn.edu)

# More than Bumble Bees

Only 1.4% of the over 3,600 known U.S. bee species are bumble bees.  
What are the other 98.6%?

● Social ● Solitary  
 丕 Ground-nesting  
 田 Cavity-nesting  
 × Nest parasites



# Rusty Patched Bumblebee

**Bombus affinis**

## **Worker:**

Rusty patch on T2,  
almost always  
completely surrounded  
by yellow hairs.



## **Queen:**

Hair short and even,  
and hair on head  
entirely black.





Photo by Susan Carpenter

# DNR Bumblebee Community Science



[Home](#) [Get Involved](#) [Resources](#) [Submit Data](#) [Explore Data](#)



This site is produced in conjunction with the [Wisconsin Aquatic and Terrestrial Resources Inventory](#) and sponsored by the Wisconsin Department of Natural Resources. The information presented on this site is subject to the Wisconsin Department of Natural Resources' [Legal Notices, Disclaimers, and Terms of Use](#).

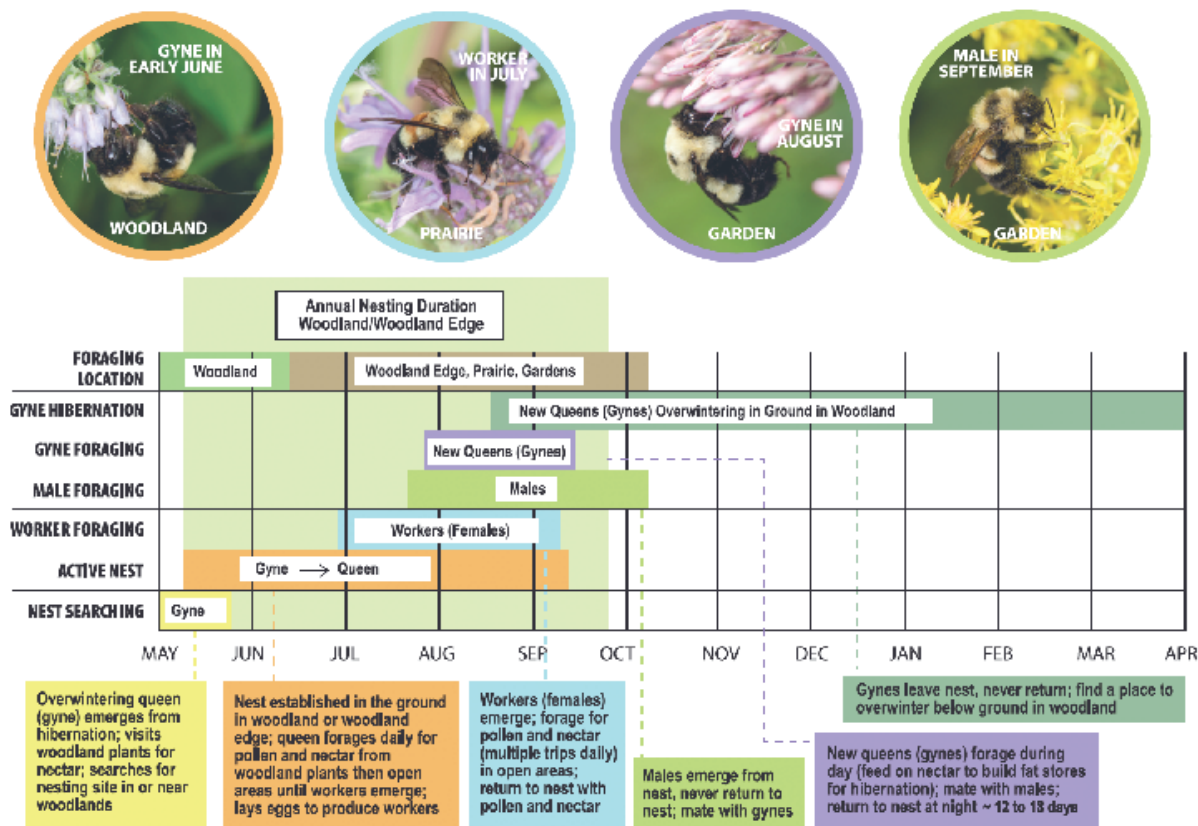


DNR bumble bee citizen science site:  
Bumble Bee Brigade

<http://wiatri.net/inventory/BBB/>

Used for all species of bumble bees,  
but please submit rusty patched bumble  
bee sightings ASAP!

## Rusty Patched Bumble Bee (*Bombus affinis*) Annual Life Cycle in Central Minnesota



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From Bee and Pollinator Books  
by Heather Holm Website

# MORE RESOURCES

Wisconsin Bee Identification Guide – [Google for direct PDF link](#)

Wisconsin DNR Bumble Bee Brigade (BB monitoring and resources)  
<https://wiatri.net/inventory/bbb/>

Wisconsin DNR  
<https://dnr.wisconsin.gov/topic/endangeredresources/pollinators>

Wisconsin Pollinators – UW-Madison Gratton Lab  
<https://pollinators.wisc.edu/>

Bumble Bees of Wisconsin – UW-Madison Gratton Lab (kid-friendly)  
<https://wisconsinbumblebees.entomology.wisc.edu/>

University of Minnesota Bee Lab (bee diversity, bee lawns, bee plants)  
<https://beelab.umn.edu/>

Ohio State Bee Lab (free webinars) <https://u.osu.edu/beelab>  
Including Doug Tallamy Talks <https://u.osu.edu/beelab/courses/>

Bee and Pollinator Books by Heather Holm (free handouts)  
<https://www.pollinatorsnativeplants.com/>

USGS Native Bee Inventory and Monitoring Lab  
<https://www.usgs.gov/centers/eesc/science/native-bee-inventory-and-monitoring-lab>

Xerces Society (invertebrate conservation)  
<https://www.xerces.org/>