



## PHOTOGRAPH BUMBLE BEES

Help us track and conserve North American bumble bees by uploading photos of bumble bees and/or bumble bee nests to Bumble Bee Watch ([bumblebeewatch.org](http://bumblebeewatch.org)). Bumble bees are easiest to photo when they are busy feeding at flowers. Take multiple photos of each bee, including the top, side, and head, if possible. Visit the Bumble Bee Watch website for additional tips on photographing bumble bees (see *Resources*).

# BUMBLE BEES OF IOWA

## *Identifying Our Iconic Native Pollinators*

## Bumble Bees in Iowa

Bumble bees (*Bombus* spp.) are critical pollinators of both food crops and wild plants. Active from spring through fall, these large native bees can fly long distances and are able to forage in cool, wet temperatures by shivering their thoracic flight muscles to generate heat. Bumble bees are also known for their ability to “buzz pollinate”—a behavior in which vibration of the flight muscles at a specific frequency facilitates pollination of certain plants.

Over ¼ of North America’s 46 bumble bee species are threatened with extinction, including at least four species in Iowa, most notably the rusty-patched bumble bee (*B. affinis*), a federally endangered bee that has been lost from most of its range across northeastern North America, but still occurs in Iowa in low numbers. Worker and male rusty-patched bumble bees are identified by the small rusty patch on the front half of their second abdominal segment.

## Resources

*Conserving Bumble Bees*

[xerces.org/bumblebeeguidelines](http://xerces.org/bumblebeeguidelines)

Bumble Bee Pocket ID Guides

[xerces.org/bumble-bee-pocket-id](http://xerces.org/bumble-bee-pocket-id)

Bumble Bee Watch Bee & Nest Sightings

[www.bumblebeewatch.org](http://www.bumblebeewatch.org)

+ PHOTO TIPS: [bumblebeewatch.org/photo-tips](http://bumblebeewatch.org/photo-tips)

Endangered Species: Rusty Patched Bumble Bee

[www.fws.gov/midwest/endangered/insects/rpbb](http://www.fws.gov/midwest/endangered/insects/rpbb)

Upper Midwest Citizen Science Monitoring Guide

[xerces.org/xerces-bee-monitoring-tools](http://xerces.org/xerces-bee-monitoring-tools)

Bumble Bees of North America: An Identification Guide

<https://press.princeton.edu/titles/10219.html>

## Bumble Bee Conservation Actions

**Provide flowers.** Bumble bees need pollen and nectar from the time they emerge in early spring until the queens go into hibernation in fall. Native flowering trees and shrubs provide early spring foraging resources, while wildflowers like goldenrods and asters provide late bloom. Native plants tend to be much better-suited to meet the nutritional needs of native bees. See the resource section for lists of bumble bees’ favorite food plants.

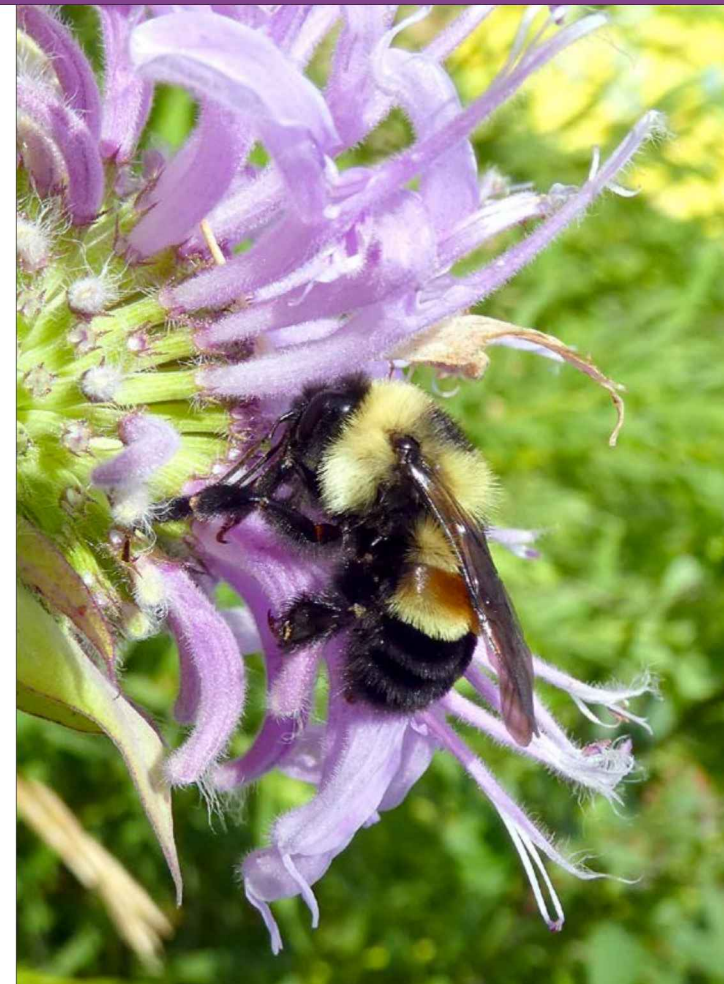
**Provide nesting & overwintering sites.** Bumble bees are social insects living in small colonies founded by a queen. Undisturbed soil, abandoned rodent nests, leaf litter, native bunch grasses, and brush piles are frequent nesting sites. For overwintering, queens utilize shallow burrows in leaf litter, rotting wood, brush or rock piles, and the duff layer of forests.

**Avoid pesticides.** Pesticides, especially insecticides, pose a direct threat to foraging bumble bees. Eliminate pesticide use near existing bumble bee habitat, and plant new habitat in areas with low risk of pesticide exposure.

**CREDITS:** Special funding for this brochure was provided by the Iowa Living Roadway Trust Fund. Content and design by Xerces Society staff: written by Sarah Foltz Jordan, Sarah Nizzi, and Jennifer Hopwood; layout by Sara Morris. Thank you to Michael Arduser for sharing local bumble bee expertise and survey data. **ARTWORK:** *cover*—rusty patched bumble bee on wild bergamot; *inside*—golden northern bumble bee on field thistle, photos copyright the Xerces Society / Sarah Foltz Jordan. Bumble bee icons designed by Elaine Evans.

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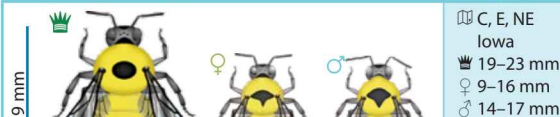


# Identifying Bumble Bee Species Found in Iowa

Yellow Thorax with Black Spot

Yellow Thorax with Black Stripe

## *B. affinis* (Rusty-patched)



Range: C, E, NE Iowa  
Queen: 19-23 mm  
Female: 9-16 mm  
Male: 14-17 mm

NESTING: Underground; in clumps of grass; on the ground surface

## *B. bimaculatus* (Two-spotted)



Range: Statewide  
Queen: 18-22 mm  
Female: 10-16 mm  
Male: 12-15 mm

NESTING: Underground; occasionally aboveground in cavities

## *B. griseocollis* (Brown-belted)



Range: Statewide  
Queen: 18-23 mm  
Female: 10-16 mm  
Male: 12-18 mm

NESTING: Underground or on ground surface

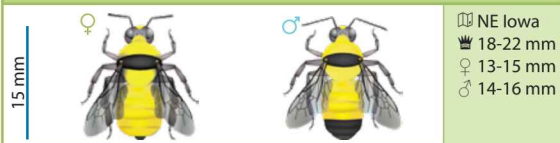
## *B. bohemicus* (Ashton's cuckoo)



Range: NE Iowa  
Queen: None  
Female: 17-19 mm  
Male: 11-17 mm

NESTING: Parasite of *B. affinis*, *B. terricola*, *B. fervidus*

## *B. borealis* (Boreal)



Range: NE Iowa  
Queen: 18-22 mm  
Female: 13-15 mm  
Male: 14-16 mm

NESTING: Underground

## *B. fervidus* (Yellow)



Range: Statewide  
Queen: 18-21 mm  
Female: 11-17 mm  
Male: 13-16 mm

NESTING: On or above the surface; occasionally underground

## *B. citrinus* (Lemon cuckoo)



Range: E Iowa  
Queen: None  
Female: 18-22 mm  
Male: 12-16 mm

NESTING: Parasite of *B. impatiens*, *B. vagans*

## *B. impatiens* (Common eastern)



Range: Statewide  
Queen: 21-23 mm  
Female: 9-14 mm  
Male: 12-14 mm

NESTING: Underground

## *B. vagans* (Half-black)



Range: Statewide  
Queen: 17-21 mm  
Female: 11-14 mm  
Male: 11-14 mm

NESTING: Underground; occasionally above ground

## *B. fraternus* (Southern plains)



Range: S Iowa  
Queen: 25-27 mm  
Female: 15-19 mm  
Male: 22-25 mm

NESTING: Underground

## *B. rufocinctus* (Red-belted)



Range: NW Iowa  
Queen: 17-18 mm  
Female: 9-13 mm  
Male: 11-15 mm

NESTING: Usually on the surface or aboveground

## *B. ternarius* (Tri-colored)



Range: NE Iowa  
Queen: 17-19 mm  
Female: 9-13 mm  
Male: 10-14 mm

NESTING: Underground

Yellow Thorax with Black Spot

Yellow Thorax with Black Stripe

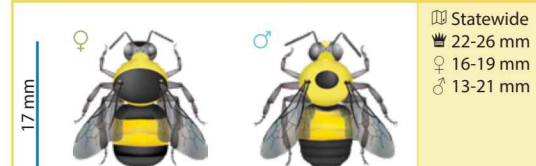
Thorax Mostly Black

Undocumented Species

Key

This identification guide for Iowa bumble bee species was produced by the Xerces® Society and the Iowa Living Roadway Trust.

## *B. auricomus* (Black-and-gold)



Range: Statewide  
Queen: 22-26 mm  
Female: 16-19 mm  
Male: 13-21 mm

NESTING: Small and on the ground surface

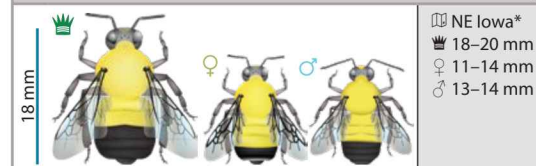
## *B. pensylvanicus* (American)



Range: Statewide  
Queen: 22-26 mm  
Female: 13-19 mm  
Male: 15-21 mm

NESTING: In long grass; occasionally underground

## *B. perplexus* (Perplexing)



Range: NE Iowa\*  
Queen: 18-20 mm  
Female: 11-14 mm  
Male: 13-14 mm

NESTING: Underground

\**B. terricola* and *B. perplexus* are undocumented from Iowa, but may occur in the northeastern part of the state.

## *B. terricola* (Yellow-banded)



Range: NE Iowa\*  
Queen: 19-21 mm  
Female: 10-15 mm  
Male: 13-15 mm

NESTING: Underground

## NOTES

**RANGE** (within Iowa)—Central (C), north (N), east (E), south (S), west (W)  
**OCURRENCE**—common (C), uncommon (U), rare (R)

## SEX & SIZE RANGE†

**QUEEN** (reproductive female)  
**FEMALE or WORKER**  
**MALE**  
† **Note:** Size ranges are based on national averages

## CONSERVATION STATUS

**E** **ENDANGERED** (federally listed under the Endangered Species Act)

**V** **VULNERABLE** (at risk of extinction)

For more information about bumble bee conservation, please visit [www.xerces.org](http://www.xerces.org).

