



Draper Natural History Museum

POLLINATOR CENSUS

Pollinators, such as bumble bees and butterflies, serve as indicators of ecosystem health. Unfortunately, pollinators are poorly studied. This was the first year of the Draper Natural History Museum's pollinator census aimed at providing baseline data of what pollinators are found in Park County, Wyoming.

The Draper deployed blue vane traps at 5 sites in Park County, Wyoming. Thank you to Steve Roshon, Melanie Debusk and the Cody Archery Range, and Brad Sorensen with the Wyoming Game and Fish Department for providing the sites for this project. Sites are spaced at least 1 kilometer apart to prevent over sampling. Traps were deployed four weeks apart and for 24 hours. The project gathered data using a modified 2021 Wyoming Natural Diversity Database (WYNDD) pilot study form and has shared this year's results with WYNDD. Special thanks to Lusha Tronstad (WYNDD) for her help in reviewing datasheets and identifications.

To increase the accuracy of identification, photographs were also uploaded to iNaturalist. On iNaturalist, the Draper has also created a project that will include all *Hymenoptera* recorded in Park County from 2023 onwards.

Next year, volunteers will be trained to deploy blue vane traps and collect data. Those interested can also take part in pinning and preparing specimens for our collection. In the second year of the project, we hope to deploy traps on a much more regular basis with the help of the additional volunteers.

Many of the bees recorded during our 2023 Census require undisturbed ground for their nest sites and pollinate a variety of plant species. Most recorded species are generalists while a few species are adapted to specific plants.

To learn more or volunteer for next year, please email Amy Phillips at amyp@centerofthewest.org.

Funding for this program was provided in part by the Community Foundation of Jackson Hole Edelweiss Fund.



Close up of a blue vane trap.

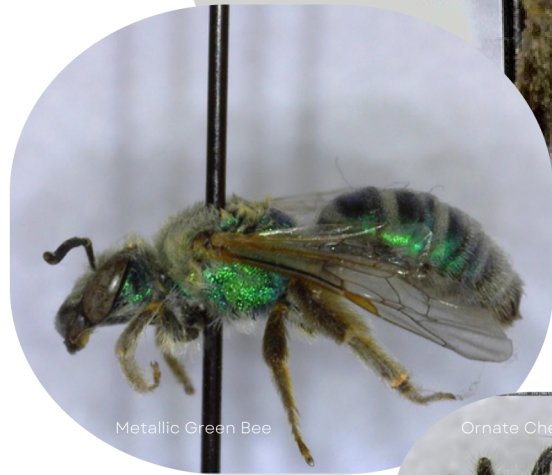
2023

POLLINATOR CENSUS RESULTS

The 2023 Pollinator Census saw 30 traps deployed at 5 sites in Park County. 27 specimens were collected, representing 4 of the 6 families and 9 of the 51 genera of bees found in Wyoming. In addition to the bees collected, 1 ornate checkered beetle (known to eat bees) and a wasp found their way into the traps. The most common bee found in the traps was the metallic green bee.



White Shouldered Bumble Bee



Metallic Green Bee



Ornate Checkered Beetle



PAUL STOCK TRAIL

DRA.301.22

Megachile

Leafcutter/Mortar/Resin Bee

Bees from this family of over 1500 subgenera are solitary. They are effective pollinators and are given their name because of the female's use of leaves or resin to build nests.



DRA.301.47

Lasioglossum

Sweat Bee

The largest family of bees with over 1700 subgenera, sweat bees come in a variety of shapes and sizes. These bees typically nest underground in bare, sunny areas or in rotten logs.



ROSHON RANCH



DRA.301.31

Lasioglossum

Sweat Bee

These bees typically nest underground in bare, sunny areas or in rotten logs. They acquired their name because of their attraction to the salt in sweat. They require undisturbed land and are a good indicator of ecosystem health.



DRA.301.23

Cerceris

Typical Weevil Wasp

This solitary wasp hunts weevils and beetles. They nest in the ground, but do not reuse nests. Wasps only survive one season. These are beneficial wasps and rarely sting.



DRA.301.28

Melissodes

Long-Horned Bee

There are 129 described species in *Melissodes*. These bees are typically associated with flowers in the *Aster* family. These bees nest in the ground and are sensitive to disturbances.



DRA.301.37

Lasioglossum

Sweat Bee

These bees typically nest underground in bare, sunny areas or in rotten logs. They acquired their name because of their attraction to the salt in sweat. They require undisturbed land and are a good indicator of ecosystem health.



DRA.301.38

Bombus

Unknown Bumble Bee

Bumble bees are iconic native pollinators. As of May 2022, two bumble bees are listed as endangered. Eleven more are listed as species of concern.



DRA.301.39

Agapostemon angelicus/texanus
Metallic Green Bee

This is a female Metallic Green Bee. Metallic Green Bees are important generalist pollinators that prefer open flowers due to their short tongues.

NEWTON LAKES



DRA.301.26

Agapostemon

Metallic Green Bee

Metallic Green Bees are important generalist pollinators that prefer open flowers due to their short tongues.



DRA.301.27

Agapostemon virescens

Metallic Green Bee

This is a male Metallic Green Bee. Metallic Green Bees of this species form communal nests underground. They also work cooperatively-- helping to fix cave-ins of their nests or handing off pollen to one another. Male Metallic Green Bees often fly slower than females as they scope out flowers.



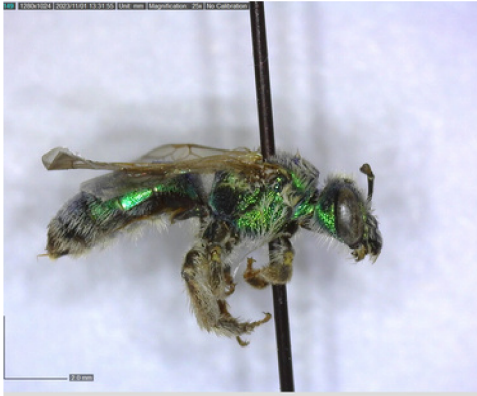
DRA.301.45

Trichodes ornatus

Ornate Checkered Beetle

Known to eat solitary bees, this ornate checkered beetle was found in the trap with DRA.301.27. Ornate checkered beetles eat pollen and mate on flowers. Females lay a single egg per flower which attaches itself to the leg of pollinating bees. Once the egg has hitched a ride back to the bees' nest, it will hatch and devour the larval bees' food and then the larva itself.

CODY ARCHERY RANGE



DRA.301.25

Agapostemon angelicus/texanus *Diadasia*

Metallic Green Bee

This is a female Metallic Green Bee. Metallic Green Bees are important generalist pollinators that prefer open flowers due to their short tongues.



DRA.301.24

Sunflower Bee Family

This specialist bee feeds on a small number of plants. While we do not know which plants this species feeds on, *Diadasia* have been recorded feeding on asters, cacti, and mallows (such as globemallow). There are six species of *Diadasia* recorded in Wyoming.



DRA.301.40

Agapostemon

Metallic Green Bee

Metallic Green Bees are important generalist pollinators that prefer open flowers due to their short tongues.



DRA.301.41

Dianthidium

Pebble Bee

This genera of bees is known collectively as Pebble Bees because they use resin to glue together pebbles and gravel into nests.



DRA.301.42

Melissodes

Long Horned Bee

There are eleven recorded species of *Melissodes* in Wyoming with an additional sixteen likely. For the most part, these bees specialize on sunflowers, thistles, asters, and daisies.



DRA.301.43

Colletes

Polyester Bee

A ground nester, this bee earns its name from the true polyester it secretes to line its nest. These bees are important for pollinating native plants, collecting pollen on their hairy legs.



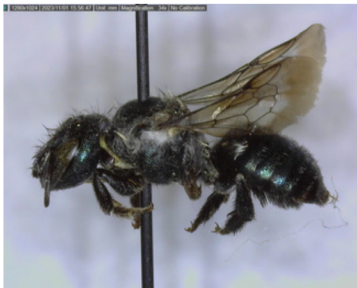
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Megachile

Leafcutter Bee

There are 29 recorded species of *Megachile* in Wyoming with an additional sixteen likely. They range from generalists to bees specializing on the evening primrose and sunflower families.

SUNSHINE HABITAT AREA



DRA.301.29

Osmia

Mason Bee

This is a female mason bee. There are sixty-one species of mason bees recorded in Wyoming, with an additional seven likely.



DRA.301.30

Osmia

Mason Bee

Mason bees range from generalists to specialists. Their tendency to build mud walls between cells in their nests gives them their common name.



DRA.301.32

Bombus nevadensis

Nevada Bumble Bee

This is a female Nevada Bumble Bee. These bumble bees inhabit habitats from grassy prairies, sagebrush steppe, to montane meadows and feed on a wide variety of flowers.



DRA.301.33

Bombus appositus

White-Shouldered Bumble Bee
This is a male white-shouldered bumble bee. This species' long tongue allows them to access flowers with long corollas, such as penstemon, and larkspur.

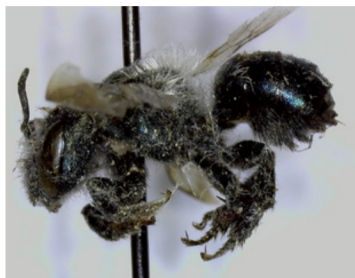


DRA.301.34

Megachile

Leafcutter Bee

There are 29 recorded species of *Megachile* in Wyoming with an additional sixteen likely. They range from generalists to bees specializing on the evening primrose and sunflower families.



DRA.301.35

Osmia

Mason Bee

This is a female mason bee. There are sixty-one species of mason bees recorded in Wyoming, with an additional seven likely.

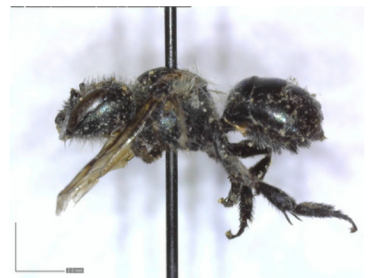


DRA.301.36

Melissodes

Long Horned Bee

This is a female Long Horned Bee. There are eleven recorded species of *Melissodes* in Wyoming with an additional sixteen likely. For the most part, these bees specialize on sunflowers, thistles, asters, and daisies.



DRA.301.46

Osmia

Mason Bee

There are sixty-one species of mason bees recorded in Wyoming, with an additional seven likely.