



Gypsy Cuckoo Classroom Kit

Teacher's Guide

Dear Educator:

Welcome to Ecology North's Gypsy Cuckoo Classroom Kit! This resource has been developed to support Northwest Territories Species at Risk Stewardship program for the Gypsy Cuckoo Bumblebee. The aim of this resource is to provide interactive, fun and fast ways to educate and excite students about a little known bee species found in the Northwest Territories (NWT).

Science and Technology Curriculum Connections:

Grade 1 - Needs of Animals and Plants
 Grade 2 - Small Crawling and Flying Animals
 Grade 3 - Animal Life Cycles

Fun Bee Facts: Gypsy Cuckoo (*Bombus bohemicus*)

Gypsy Cuckoo bees are a medium sized bee. The upper segment of their hind legs has a densely hairy outer surface and lacks a pollen basket. Females usually have a white tip or at least a white patch on the back of their abdomen. You can tell them apart from the other bees found in the Northwest Territories by the black hairs on the top of their head. Other bees have occasional yellow hairs on the back upper side of their head.

Some bees live alone while others like to live in organized groups call colonies. Their homes are called hives and in each hive there is one queen bee who lays eggs each day. Though bees prefer the summer and warmer months of the year, they can survive the winter by hibernating in the soil, mulch or rotting logs. Bees are a very important part of the northern ecosystem; they are the most important pollinators. Pollinators are responsible for fertilizing 80% of the world's flowering plants.

The Gypsy Cuckoo Bumblebee is found in northern regions around the world, including most of Canada. They are found in eastern and western United States and Canada in temperate and boreal forests. We are still trying to learn more about where bees live in the NWT. Currently, bees are known to live all over the Northwest Territories, even the most northern regions. Gypsy Cuckoo bees have been very numerous compared to other bumblebee species. There have been large population declines over the past 20-30 years. They have even disappeared from some of their historical range in southern Canada. The current population trend of the Gypsy Cuckoo Bumblebee in the NWT is unknown.

If you see a Gypsy Cuckoo Bumblebee please email the date, time, weather and location to wildlifeOBS@gov.nt.ca.

Why am I at risk?

I am at risk because I can't build my own home, instead I move into the homes of the Western Bumblebee and the Yellow Banded Bumblebee. Then, I kick them out! The Western and Yellow Banded bumblebees are my host bees, because I live in their homes. Unfortunately, our population is under threat and my host bees have been disappearing in Canada. How we are doing in the Northwest Territories is less known, but we are holding our own for now. With declines in most of Canada, it is hard for us to find new homes.



Photo: NWT Species at Risk



Photo: NWT Species at Risk



Photo: Orangeaurochs, flickr



Photo: Jennifer Broadbridge

Want to help?

There are several ways you can help support the protection of Gypsy Cuckoo Bumblebees.

1. Build a bee house (like a bird house) and help them feel more at home in your community. Bee houses provide cover and keep them warm. They are easy to make. To learn more about how to make a bee house visit: <http://www.nwf.org/Garden-For-Wildlife/Young/Build-a-Bee-House.aspx>
2. Feed the bees. Planting bee attracting flowers, such as asters, primroses, heathers, dahlias, sunflowers, cosmos or goldenrods to provide nutritious food for bees.
3. Spread the word about how important bees are in our ecosystem.
4. Avoid pesticides on your lawn and garden, because they can hurt bees.
5. Avoid disturbing and killing bees.



Flying Bee's Game

As a class, make pipe cleaner bees (see Craft Corner for the link). Attach the bees to another pipe cleaner so that it has a handle. Ask the children to decorate a paper bag (trimming down small brown lunch bags works well) with a picture of a flower. In each paper bag add some orange cheesies (check for allergies first!) The children can leave their paper bag flower on their desk and then have their bee fly from flower to flower. They should note that the bees are now covered in orange cheese dust! Explain that in nature, the bees get covered in flower pollen and move it from flower to flower - which helps the plants grow their fruit, seeds and nuts (depending on the plant). If you want, you can provide fresh cheesies (pollen) and juice boxes (nectar) for the students to enjoy.

Educators:

Share the video of robber and angel bees with your students. Go to the link <http://kids.nationalgeographic.com/animals/hubs/insects> and click on the Angel Bees video.

- ❓ Are Gypsy Cuckoo bees more like angel bees or robber bees?
- ❓ How do the bees defend their home?
- ❓ What are the bees fighting over?

Movie: You can also engage your class in learning about bees by watching "The Bee Movie" and discussing what they learned from the movie!

Here are some ways you and your students can get involved!



Spread the word – bees live in the NWT! They are our number one pollinator, which helps many types of plants grow for us and others to eat.



Do not disturb any bee hives or bee houses. If you find one, leave it as you found it.



Play the "Flying Bee's" game and talk about different things bees have as treats. (Please note that you will need some special ingredients for this game.)



Organize or challenge students to organize a classroom or school fundraiser to raise money for bee baths, bee houses, or to be donated to an organization that helps bees!



Have a bee house building session and install them in useful areas such as community gardens or nature trails.



Share what you know! As a class create some informative posters about bees and post them around your school.



Engage your students by using the brochure, information and tattoos found in this package. Need more? Contact Ecology North at ecologynorth.ca

For more bee information check out these websites!

www.nwt-species-at-risk.ca
www.davidsuzuki.org
www.wwf.ca

Craft Corner

1. Pipe cleaner bumblebees
<http://beyondgarden.blogspot.ca/2010/04/bees-made-with-chenille-stems-pipe.html>
2. Honey Bee books is a website devoted to children's books. It might be a great way to get inspired for your next class story!
<http://honeybeebooksblog.blogspot.ca/p/start-here.html>. Honey Bee books also have fun and simple rock painting activities. Paint rocks and pebbles to make them look like bees!
3. Create a bee family using simple materials, and don't forget to give your Gypsy Cuckoo Bumblebee a white bum!
<http://ateachingmommy.com/bee-crafty/>
4. There are many other great craft ideas on the internet. Search "bee crafts", or "bumble bee crafts and activities" for inspiration.

Bee Books: Generate some buzz!

Flight of the Honey Bee

Raymond Huber

Illustrated by Brian Lovelock

Candlewick (2013)

ISBN-10: 0763667609

ISBN-13: 978-0763667603

www.raymondhuber.co.nz

Buzz about Bees

Kari-Lynn Winters

Fitzhenry and Whiteside (2013)

ISBN 10: 1554552028

ISBN 13: 9781554552023

www.kariwinters.com/bees

The case of the vanishing honeybees: a scientific mystery

Sandra, Markle

Millbrook Press (2013)

ISBN 1467705926

ISBN 13: 9781467705929

www.sandra-markle.blogspot.com

Big City Bees

Maggie De Vries

Greystone Books (2012)

ISBN: 1553659066

ISBN13: 9781553659068

www.maggiedevries.com

Glossary

Anther: the part of the stamen, where pollen is produced.

Colonies: a group of bees who live together in a group, mostly in a hive or bee house.

Pollen: the fine, powdery, yellowish grains or spores, sometimes in a mass, which are the fertilizing elements of flowering plants.

Pollination: the transfer of pollen from the anther to the stigma, which is the plant's reproductive organ.

Stamen: the pollen producing part of a flower, usually with a slender filament supporting the anther.

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