



Harebell, *Campanula alaskana* - Photo by
Cherry Dodd. Old Man Creek Nursery

From your editor:

Welcome to the Wildflower News for December. I wish all of you a calm, peaceful, cozy, and happy holiday season.

Our most important natural event this month is the winter solstice on December 21st. The days start to get longer, the sun slowly becomes stronger, and our thoughts turn to a new season of growing plants.

In This Issue:

Memories of Judith

Events

- No events for December

News

- Introducing our new publisher
- Progress update on our new ENPS website
- ENPS is now on Instagram
- JBJ McDonald Conservation Land opens to the public
- Chickakoo Lake Recreation Area is one of the best hiking spots
- Canada's prestigious science award goes to research on habitat fragmentation

Remembering Summer

Articles

- How to support overwintering native bees
- Today's thought - Are native plants just a bunch of weeds?

MEMORIES OF JUDITH

This is the first time the Wildflower News has been put together without Judith doing most of the work. I miss her presence deeply, so I am starting a series of plant wisdom from Judith and memories of her. Here are the first two by Liz Deleeuw.

Judith and White Morphs

by Liz Deleeuw

On field trips Judith was always scanning for unusual representatives of their species. A favourite of hers was "white morphs." These are plants with flowers that are white instead of their usual colour.

Quite a few years ago Judith, Patsy, Manna, and I made an exploratory field trip on the west side of Edmonton. Patsy wanted to find remnants of the peat bogs that she knew had been there. Sadly, development had taken the landscape away. We trudged through deep bush and happened upon a golf course. The golfers were not too happy with us. On our wanderings, Judith suddenly came upon a white morph of Fireweed. Her excitement was unbounded and the field trip was worth that moment.

Judith memories

by *Liz Deleeuw*

One year, around Thanksgiving, Judith invited a few members of the Edmonton Naturalization Group (former name of the ENPS) to her house for a Thanksgiving meal. I remember Diana Baragar, Cherry Dodd, and myself being in the group. There may have been others too. Judith did up a fancy table setting and I remember a delicious fall soup and other good food. I include a picture of the setting in Judith's back sun room.

I was new to the group and I was fascinated that Judith would include us in a meal. I came to learn that Judith had a well developed sense of style with which she approached all of her endeavours. I also came to know that our passion for native plants elevated us to the level of friends, not merely members.

I remember hour long phone calls with Judith when we talked of everything under the sun. I am not generally a phone person but Judith could keep me captivated with her sense of wonder, her caring in regards to the environment and the whole world too.



Thanksgiving table

* * * * *

EVENTS

No events for December

*If you would like to post an event that involves native flowers,
please email us at engedmonton@gmail.com*

If you have a news item involving native plants that you would like posted, please email us at engedmonton@gmail.com

Introducing our new publisher

by *Cherry Dodd*

Maria Tan kindly helped publish this month's Wildflower News and has agreed to assist with future issues. Maria started volunteering with ENPS by helping with our website and I am so happy she will take on the additional commitment to assist with the newsletter. She is looking forward to learning a lot about native plants and adding more of them to her garden. Welcome Maria!

Progress update on our new ENPS website: www.edmontonnativeplantsociety.ca

by *Natasha Stairs*

The old website is no longer available online, and you will see this reflected in your search results when you search for Edmonton Native Plant Society. The new website is in the rankings, and simply needs more traffic to move it up. We are getting closer to completion, however there are a number of issues we are still working on, so we appreciate your patience as we sort these out.

ENPS is now on Instagram

by *Kate Spencer*

We're happy to announce that we have joined Instagram @edmontonnativeplants! Follow us for photos and information about plants and our activities. Want to share a photo with us? Add the hashtag #Edmontonnativeplants or tag us in your post. We look forward to seeing you there!

JBJ McDonald Conservation Land opens to public.

The JBJ McDonald Conservation Land is now open to the public. The 130-acre site is in Lac Ste. Anne County, about a 100 km drive from central Edmonton. For easy access, visitors will find a parking area, pedestrian gates, and signs throughout the land for navigating the 2.7 km of natural trails. This conservation land is the first site purchased directly by the Edmonton & Area Land Trust. For more information and visiting guidelines go to <https://www.ealt.ca/jbj-mcdonald>

Chickakoo Lake Recreation Area is one of the best hiking spots in Edmonton area, summer or winter.

With over 480 acres of woodland and lakes, Chickakoo Lake Recreation Area is home to wildlife such as moose, deer, beavers, birds, and so much more. In Parkland County, near Stony Plain, it is a popular destination for family-friendly outdoor adventures.

Enjoy 11 km of trails used for walking, mountain biking, and cross-country skiing. In winter months, trails are groomed and tracks set regularly for cross country skiing. There are washrooms, picnic areas, fire pits with firewood supplied, a gazebo, and playground. Dogs are welcome on leash. More information at <https://adventurealberta.ca/chickakoo-lake-recreation-area/>

Canada's most prestigious science award goes to research on habitat fragmentation.

Ecologist Lenore Fahrig has won Canada's most prestigious scientific award, the Natural Science and Engineering Research Council's Gerhard Herzberg Canada Gold Medal which is given annually and comes with \$1 million dollars in research funding. Her 40-year career has been focused on how to balance humanity's growing impact on the landscape with the need to protect and conserve biodiversity.

According to Fahrig's research, preserving many small patches of natural habitat, whether they happen to be in big cities or scattered around industrial and agricultural areas, can work as well or even better than trying to preserve a few large chunks when it comes to protecting biodiversity.

"What we know now," said Fahrig, "is that every bit of natural habitat is important in some way for biodiversity. What we need to do is not kind of say, 'well, this bit of habitat is not big enough.' Every bit of habitat is big enough in the sense that if you add it together with other little bits of habitat together, that makes a big difference. What that means is that efforts to save small bits of habitat are really important."

According to Fahrig, "We have a situation in in Canada where most of our threatened and endangered species are in the southern part of the country, where we have a lot of small patches of forest and or other habitats, and not very much in the way of large patches. And we tend to put our protected areas in the far north where we can have large, protected areas, but that is not actually helping the species in the southern part of the country, which are the most threatened and endangered species in Canada."

More at <https://tinyurl.com/bdd8av45>

REMEMBERING SUMMER



Philadelphia fleabane flower, *Erigeron philadelphicus*, with a tiny native bee - Photo by Trudy Haracsi



Meadow blazingstar, *Liatris ligulistylus*, with a splash of gaillardia, *Gaillardia aristata* - Photo by Sue Panteluk



Canada goldenrod, *Solidago canadensis* - Photo by Sue Panteluk

ARTICLES

How To Support Overwintering Native Bees

Want To Support Biodiversity in Your Garden? Leave Sites for Native Bees To Overwinter

by Kate Wilson

Co-evolution of flowers and bees

When people are exploring the diversity of our aspen parkland's wildflowers, they may also be learning to appreciate the remarkable variety of its native bees. This is why a recent finding by an international expert in paleobiology is compelling news, shedding new light on when the diversification of both became intimately linked.

And it goes back a long way.

In late 2020, professor George Poinar Jr. of Oregon State University identified a fossilized female bee in amber from 100 million years ago. While this pushed back the fossil record for bees' first appearance, the significant finding was the numerous pollen grains present. Also clinging to her body were beetle parasites – the kind that hitch a ride to bees' nests to dine on their larvae and food left by the bee. Both indicated she had visited one or more flowers.

Because Poinar's primitive bee shared traits with both modern bees and apoid wasps – which are carnivorous – his finding more accurately pinned the time when bees split off from wasps and became pollen eaters. While science is still working on why bees made the transition to flowers, from that point on bees became the standard-bearers for driving the diversification of flowering plants.

The earliest animal-pollinated flowers were shallow and cup shaped, visited by insects such as beetles. As bees became specialized as pollination agents – with behavioural and physical modifications such as scopal hairs and pollen baskets – flowers developed rewards such as nectar and longer tubes, which offered advantages for bees with longer tongues.

It meant that flowers with the most attractive scents and colours had advantages over other flowers, as they enticed greater numbers of pollinating bees and butterflies. Researchers in southern England have even found that bee body weight and the [rate they visit flowers](#) influences what flowers they select.

This interdependent relationship stimulated what is known as adaptive radiation of the angiosperms, and in turn, the bees themselves. Diversification of both went into high gear. It also highlights an essential partnership. Native flowers in Alberta's aspen parkland are dependent on pollination by the roughly 130 species of bees that share the landscape – as well as other pollinators – and bees rely on a variety of both native and agricultural plants.

After expanding dramatically in the warming trend that followed the end of the last Ice Age, about 11,700 years ago, the variety of bee species we see today are well adapted to the aspen parkland's native plants. While most are generalist, some are specialists, gathering pollen from one or a few species or genera of closely related plants. A select group of bee specialists even gather floral oils. And agricultural research is starting to show how wild bees can provide the [majority of crop visitation](#), while bee species richness can [increase fruit set of orchard crops](#).

Slightly untidy gardens are best for overwintering bees

When it comes to helping native bees survive the winter, it's useful to be familiar with some of their needs and habits. Almost all of Alberta's bees lead a solitary life, and most survive the winter as larvae. The adult female, after laying her eggs in a burrow or other cavity, will not live to see her young emerge in the spring and summer. But there are exceptions.

Late in the summer, bumble bees, for instance, will die except for the new queen. After mating, she will find a hibernation spot and emerge in the spring to build a new nest to raise her young. Many halictid bees, known as sweat bees due to their attraction to people's sweat, overwinter as mated adult females, emerging in the early spring.

In order to secure winter protection, many species seek out cavities provided by material such as loose bark or dead leaves. For bumble bees, a perfect spot is an abandoned rodent nest or within a piece of wood or compost pile. Other bees overwinter underground.

Andrenid bees, for instance, hibernate in underground tunnels and emerge in the spring before most plants get started. If you've noticed these little yellow and black bees in your garden, there's a chance they are also overwintering. Where there's a patch of bare soil, maybe on a dirt path or south facing incline, it could be a location for ground nesting bees.

Whatever their life cycle, all bees need sheltered places to survive the winter either as pre-pupae or hibernating adults. So if you choose to tidy up debris or dig up spots of packed bare ground, be aware that you may be removing next season's generation of bee pollinators. Tilling the soil can destroy ground nesting bees' burrows, and clearing away too much dead material in the fall removes critical shelter from winter elements.



Green needlegrass, Nassella viridula, with stalks of Giant Hyssop, Agastache foeniculum



Giant Hyssop, Agastache foeniculum, stalks

- Slightly ‘untidy’ gardens are one of your best practices for supporting overwintering pollinators. Refrain from pulling out dead plant material, especially around hedge and shrub bases, and consider allowing a patch of your lawn to grow longer before winter sets in.
- If you want to deadhead the more profuse garden plants, make sure to leave a section of stalk on those with hollow or pithy stems such as giant hyssop, raspberry and sunflowers (see photos above). The hollow stalks provide great hibernation sites, and removing them in the fall could be fatal for any bees that are nesting in them. The Canadian Wildlife Federation suggests burying logs halfway and leaving tree stumps.
- If you don’t want your garden too wild looking – to alleviate unhappy neighbours or even bylaw infractions – try arranging piles of branches artfully in or around your garden space for the winter.

One final consideration: the timing of bees’ emergence after wintering influences which flowers are important to them. Early-emerging species, for instance many Andrenid bees, rely on early-blooming flowers such as willow and dandelion. So leaving spring ‘weedy’ flowers un-mowed is a good practice for giving those early emergers an edge as they come out of hibernation.

To see the article on the fossilized primitive bee, go to www.sciencedaily.com/bees-selection-flowers.

To find out more about supporting native bees:

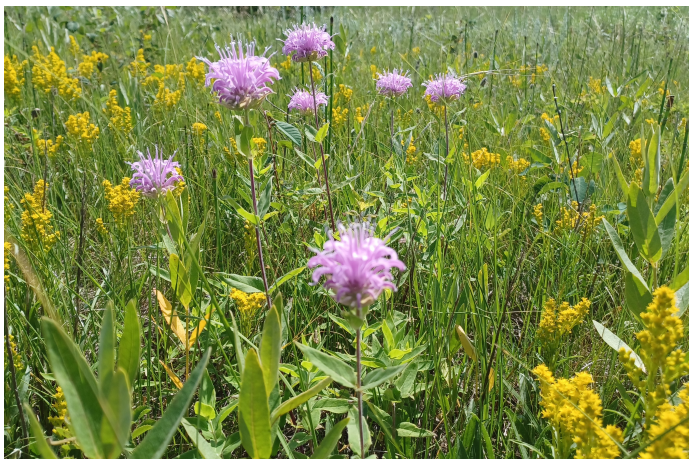
- [Alberta Native Bee Council](#)
- [Edmonton Area Land Trust - Protecting pollinators](#)
- [Alberta Institute for Wildlife Conservation - Alberta's pollinators](#)
- [Pollinator Partnership/aspen parkland pollinators](#)

Today’s Thought: Are Native Plants Just a Bunch of Weeds?

by Liz Deleeuw & Cherry Dodd

Some people consider native plants to be “a bunch of weeds.” Weeds are essentially plants that are not wanted in a particular setting. Weeds are often notoriously aggressive. A question of aesthetics comes into play here. It depends on your style of gardening, and your sense of beauty. To some people dandelions are not weeds, but are an important crop and beautiful too.

In the pictures below, you see “nature’s design” at an intact prairie. Most people today do not get to experience intact native landscapes. Wild bergamot and goldenrod are blooming beautifully in a diverse patch of plants that will bloom throughout the season. Adjacent to this patch, and intermingled, low milkweed is in bloom, with purple prairie clover in bud.



Grey-stemmed goldenrod, *Solidago nemoralis*, and wild bergamot, *Monarda fistulosa*



Low milkweed, *Asclepias ovalifolia*, in bloom with purple prairie clover, *Dalea purpurea*, in bud

It is impossible to recreate a native prairie, but it is possible to recreate the look with a diversity of native plants. Yes, you will have to manage your bed a little by giving away plants that are spreading too quickly.

Also, your new planting will need to be weeded every year, just like an ordinary perennial bed. But, unlike an ordinary perennial bed, it will be an extraordinary ecosystem, capable of attracting and supporting birds, bees, butterflies and a wide range of interesting pollinators. It’s a wonderful adventure for those who choose to take the plunge.

Next Month in the Wildflower News

People have asked for more information on native flowers so they can decide what to grow or plant in the spring. So next month we will start a series of plant profiles with information about the height, spread, growing conditions, bloom time, self-seeding or spreading tendencies and interesting facts.

Aims of the Edmonton Native Plant Society:

- ❖ Promote knowledge of the Edmonton area native plants.
- ❖ Conserve our native plant species and their habitats.
- ❖ Preserve native plant species and habitat for the enjoyment of present and future generations.
- ❖ Educate individuals, business and local governments about native plants.

Lifetime ENPS Membership

You can now become an Edmonton Native Plant Society member for life. Memberships are \$20. Purchase by email: enpsmembership@gmail.com or visit one of our booths at plant events in your area.

Please send compliments, concerns and questions to engedmonton@gmail.com

To unsubscribe, or subscribe, email engedmonton@gmail.com

Cherry Dodd, editor

Maria Tan, publisher

www.edmontonnativeplantsociety.ca/



Smooth aster, *Symphotrichum laeve*. Sue Panteluk's property. Photo by Sue Panteluk