



HABITAT - the arrangement of food, water, cover, and space - IS THE KEY.

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Forward

Welcome to the Spring Issue of Habi-Chat! This issue is all about the bees! Native bees around the United States are also in decline, but the European honeybee gets all of the attention. We have over 400 species of bees documented in Maryland; this issue will go over one special group known as Mason bees. Articles include information on eastern redbuds, mason bees, bee-friendly backyards, building bee boxes and more! I hope you enjoy this issue!

As you may have noticed, our website is under construction. Please update your Wild Acres website links to our new page here:

<http://dnr.maryland.gov/wildlife/Pages/habitat/wildacres.aspx>

If there is a particular topic that you would like to see on our site, then please don't hesitate to contact me to let me know! My information can be found at the bottom of this newsletter. Happy Spring!

Maryland Native Plant Profile:

Native Plant Profile: Eastern Redbud (*Cercis canadensis*)

Eastern redbud (*Cercis canadensis*) is a commonly planted small tree with striking pinkish-purple flowers that emerge before the leaves in spring. It can often be viewed along roadways and in backyards as a 'pop' of color against the newly emerging spring plants. This small tree is in the legume family (Fabaceae) and can grow 15-30 feet in height. It thrives best in partial sun but also can tolerate full sun and shade. Similarly, eastern redbud can be found in a variety of soil conditions from dry to wet and a range of soil pHs.



Redbuds By Kerry Wixted and Mickey, Flickr CC

In early-mid April, the pinkish-purple buds burst from the tree. As the flowers mature, they become lighter pink in color. The flowers are pea-like in structure and occur in umbels along the grayish branches. The leaves emerge in late spring, towards the end of flowering. Eastern redbud leaves are distinctly heart-shaped (cordate), alternate along the stem, and are simple with entire margins. Leaves can grow up to 5" in length. By mid-summer, pollinated flowers develop into fruits that resemble brownish bean pods. The fruits often remain on the tree until after the leaves have fallen off, and some stick around through the winter making identification easy.

While eastern redbud is known to self-pollinate, the tree also relies on several animals to pollinate it. Many of the early emerging mason bee species (*Osmia* spp.) will utilize eastern redbud nectar and pollen as well as honeybees (*Apis mellifera*), bumblebees (*Bombus* spp.), digger bees (*Synhalonia* spp.), cuckoo bees (*Nomada* spp.), Andrenid bees (*Andrena* spp.), and Halictid bees (various spp.). The seeds are eaten by birds such as the Northern Bobwhite Quail, Northern Cardinal, and Rose-Breasted Grosbeak.

Maryland Native Wildlife

Mason Bees (*Osmia* spp.)

Mason bees (*Osmia* spp.) are also known as orchard bees. Unlike the European honeybee, native mason bees carry pollen on their bellies and nest in holes. These bees get their common name from using clay soil to make chambers in their nest holes. Mason bees are usually metallic green or blue in color, though many also are blackish.

In North America, there are over 140 species of mason bees. Nineteen species of mason bees have been documented in Maryland. One extremely important mason bee is the blue orchard bee (*Osmia lignaria*) which has been established as an alternative orchard pollinator. These tiny bees are highly efficient at pollinating. An acre of apple or cherry trees only needs 250-300 orchard bee females to pollinate it!



Blue orchard bee (left) by Sam Droege, USGS and mason bee on a Zinnia (right) by USDA ARS

Mason bees are solitary nesting bees. Unlike colonial species such as the European honeybee, solitary nesting bees live on their own. A female solitary nester will construct her own nest and collect pollen and nectar for herself and her young. Some solitary nesting bees will nest in large groups known as aggregates, but they do not actively help each other. While mason bees have the abilities to sting, they are very docile and very rarely sting unless handled in a rough manner.

Most species of mason bees are active in late April through mid-June. Once a female finds a suitable nest tunnel (like an old beetle burrow in a tree or a rock crevice), she will create horizontal chambers with mud. Each chamber will house one egg and a provision of pollen and nectar she has collected. Adults are active for 4-6 weeks before dying. In the summer, the young will hatch and pupate in the chambers. By the fall, the bees will become adults which remain dormant in their chambers until the following spring.

To attract mason bees, you can supply nectar resources which include both native and non-native fruit shrubs and trees such as apples (*Malus* spp.), blueberries (*Vaccinium* spp.), cherries (*Prunus* spp.), and viburnums (*Viburnum* spp.).



Cherry-leaved viburnum by Kerry Wixted

Did You Know?

Bees evolved from wasps. Nearly all wasps will either prey upon or parasitize pest insects. In contrast, most bees feed off of pollen and nectar. Because many wasps are not pollinators, they typically can be distinguished from bees by the lack of hair on their bodies (see image).



Want to Learn More?

Check out our Bee page with our downloadable Common Maryland Bees handout (PDF) here:

<http://dnr.maryland.gov/wildlife/Pages/habitat/wabees.asp>

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Other Resources:

- [US Fish and Wildlife Service pollinator page](#)
- [Pollinator Partnership](#)
- [Xerces Society](#)

Common Maryland Bees

Over 400 species of bees have been documented in Maryland. Bees are extremely beneficial insects that are responsible for pollinating many different species of flowering plants. Bees also serve as an important food resource for some species of wildlife. For more information, check out the Wild Area page: <http://dnr.maryland.gov/wildlife/Pages/habitat/wabees.asp>

 <p>Honey bee (<i>Apis mellifera</i>) <small>by: Andrew Hill for USFWS</small></p> <p><small>The honey bee has a light to dark brown body with pale and dark hairs on bands on its abdomen. This is one of our most visible and common species of bees, but it is not native. Honey bees have pollen baskets on their legs, a hair-covered abdomen and hair-covered head. They also have many eyes.</small></p> <p><small>Honey bees live in colonies, often in man-made structures or in cavities.</small></p>	 <p>Leaf-cutting bee (<i>Megachile</i> spp.) <small>by: Andrew Hill for USFWS</small></p> <p><small>At least 20 species of leaf-cutting bees have been documented in MD. These bee species are black and hairy. Leaf-cutting bees use their large mandibles to cut circular discs out of leaves to use for their nests. Unlike honey bees, leaf-cutting bees carry pollen beneath their abdomens. Some species have poorly developed eyes.</small></p> <p><small>Leaf-cutting bees are solitary, but they will nest in aggregations.</small></p>
 <p>Bumble bee (<i>Bombus</i> spp.) <small>by: Andrew Hill for USFWS</small></p> <p><small>Over 10 species of bumble bees are found in Maryland. Bumble bees are robust with black bodies covered by yellow hairs.</small></p> <p><small>Bumble bees often nest underground in abandoned rodent burrows.</small></p>	 <p>Large carpenter bee (<i>Xylocopa virginica</i>) <small>by: Andrew Hill for USFWS</small></p> <p><small>Carpenter bees look similar to bumble bees, but carpenter bees are mostly lacking hair on their shiny abdomens. Often, these bees fly fast and erratically.</small></p> <p><small>Carpenter bees burrow into wood to nest.</small></p>

Habitat Tips: Repurposing Suet Cages

During this time of year, many of our local wildlife are twitterpated and birds are no exception! While you may be tempted to take down your suet cage and place it in storage until Fall, you can repurpose it to assist breeding birds!

Examples of nesting materials to include:

1. Pet fur (from pets not treated with flea or tick chemicals)
2. Moss (chickadees love moss!)
3. Bark strips
4. Dry grass, straw, and plant materials
5. Small twigs
6. Cattail or milkweed fluff
7. Cocoa fibers (from worn out baskets)

Note: Dryer lint should be avoided as it can often contain perfumes and chemicals that can impact nesting birds. Furthermore, not all lint dries fast and may crumble when wet, providing an unsuitable nesting material. Similarly, while birds will use bits of plastic to create nests, it is not good to provide these materials to birds.



Suet cages with nesting materials are enticing to birds (left). Using old fibers from milkweed stalks are a great nesting resource to fill your cage (right).

Habitat Tips: Bee-Friendly Backyards

Over 400 species of bees can be found in Maryland, and many need our help! Native bee populations have been on the decline across the United States. You can help native bees by making your backyard more bee-friendly with the following tips.

- 1. Plant Natives.** Native plants have co-evolved with native pollinators. For maximum diversity, you should plant a bee buffet that offers nectar and pollen throughout the year. Some early blooming plants that are excellent choices for bees include black willow (*Salix nigra*), Canada serviceberry (*Amelanchier canadensis*), golden Alexanders (*Zizia aurea*), high bush blueberry (*Vaccinium corymbosum*), and wild columbine (*Aquilegia canadensis*). The most attractive mid-season blooming plants are sweet pepperbush (*Clethra alnifolia*), swamp milkweed (*Asclepias incarnata*), early goldenrod (*Solidago juncea*), and culver's root (*Veronicastrum virginicum*). Attractive late-season plants include Canada goldenrod (*Solidago canadensis*), white meadowsweet (*Spirea alba*), and asters (*Symphyotrichum* spp.).



Golden Alexanders (left) and Swamp Milkweed (right) are both preferred by bees. Photos © Derek Ramsey, Wikimedia Commons

- 2. Don't Plant a Zoo.** While it is tempting to plant lots of different flowering plants in your backyard, you may not attract bees if you only have 1 or 2 of each type of plant. It is best to plant in batches, so bees and other pollinators can visit multiple plants offering their favorite foods.
- 3. Maintain Habitat.** Did you know that many native bees nest in open, sandy soils? Or that some bees use dead trees? Open, sandy soil, brush piles, old stumps, and dead flower stalks all can be important nursery habitat for nesting bees. Consider leaving these elements in your wildscape to entice future bees. You can also supplement these sites by building bee houses.



Holes left by ground-nesting bees (left) and a ground-nesting bee, likely a polyester bee (*Colletes* spp.)(right) by Kerry Wixted

4. **Limit Pesticide Use.** Pesticides are often harmful to non-target critters like bees and butterflies. By limiting or eliminating pesticide use in your backyard, you too can help the bees! If pesticides have to be used, then try to select pesticides without neonicotinoids (like imadicloprid) for use on flowering plants. Be sure to properly apply pesticides and to target application to limit spread.

5. **Support Research.** There is still a lot to learn about our pollinators. You can help by supporting bee research initiatives and participating in citizen science projects. One project to note is Bumblebee Watch, a collaborative effort to track and conserve North America's bumble bees. You can take pictures of local bumble bees and upload them to the **Bumblebee Watch** website. For more information, check out the website: <http://bumblebeewatch.org/>

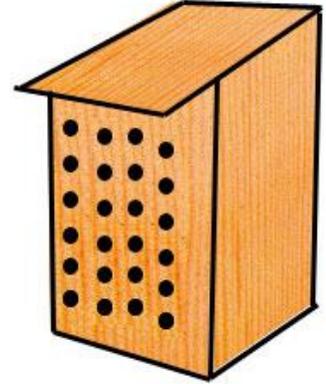


Another great citizen science site is The **Great Sunflower Project** which has citizens documenting pollinators that visit their gardens. More information can be found here: <https://www.greatsunflower.org/>

*Spring is the season for planting!
Check out the Maryland Native Plant Society website
for Native Plant Sales near you!
(<http://www.mdflora.org/plantsales.html>)*

Backyard Wildlife Fun for Kids: Build a Bee Box!

Naturally, mason bees would nest in holes such as beetle tunnels in dying or dead trees and logs, rock crevices, and/or hollow centers of plant stems. However, you can also create this important nursery habitat in your own backyard by making bee nesting boxes. Mason bees are relatively docile and rarely sting unless significantly provoked.



Materials:

- Block of untreated wood or an old log
- Drill
- Roof (optional)
- Cardboard tubes w/ paper inserts (optional)

When creating a bee house, you should avoid using treated wood or cedar as both types can kill nesting bees. Drill holes 5/16" in diameter several inches apart in the wood block. The hole depth should go back at least 4-6", and the hole should not go through the back side of the block. Female mason bees will lay female eggs furthest back in the hole. A box that is too shallow will only produce male mason bees.

Make sure bores are smooth inside as rough holes will discourage nesting. Cardboard tubes with paper liners can be inserted in the holes as one nesting option. The advantage to using removable tubes is that they can be removed every season and replaced to limit possible parasites that may linger in the box.

Tips:

- Avoid purchasing and releasing mason bees- there are many natives in need of a home, and captive raised bees may accidentally spread disease
- Avoid spraying insecticides near box
- Install boxes in mid-March
- Keep a small, open patch of mud near the box for the female to use
- Place box at least 8" off the ground, in a sunny area with an east or southeast-facing entrance
- Place box near early-flowering plants
- Sometimes, other species of bees and wasps will use the nest boxes- this is okay- they need habitat too!
- Retire your box after 2 years.

Want more Habi-chats?: Check out our archives here:

http://dnr.maryland.gov/wildlife/Pages/habitat/habichat_archives.aspx

Citizen Science: Search for Spotted Skunks

"Did you know? Two species of skunks can be found in Maryland- the common striped skunk (*Mephitis mephitis*) and the rare eastern spotted skunk (*Spilogale putorius*). The spotted skunk has not been documented in Maryland since 1967, so DNR biologists are working with Frostburg State University and the public to document whether or not this species still occurs in Maryland.

Eastern spotted skunks have a more weasel-like body shape compared to the common striped skunk. In addition, the eastern spotted skunk has four stripes on its back which are broken in pattern, giving it a "spotted" appearance. Another identification character is a white spot on the spotted skunk's forehead.

Eastern spotted skunks may still occur in western Maryland. If you see a spotted skunk, please take a photo and send it to Jim McCann, MD State Zoologist, james.mccann@maryland.gov "



Spotted Skunk (left) and Striped Skunk (right). Photos: Brian Garrett, Flickr Creative Commons and USEWS

Acknowledgements

- Eastern Redbud along street by Mickey, Flickr Creative Commons
- Blue orchard bee by Sam Droege, USGS
- Mason bee on zinnia by USDA ARS
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- "Swamp Milkweed *Asclepias incarnata* Flowers Closeup 2800px" by Photo by and (c)2007 Derek Ramsey (Ram-Man). Licensed under GFDL 1.2 via Wikimedia Commons - https://commons.wikimedia.org/wiki/File:Swamp_Milkweed_Asclepias_incarnata_Flowers_Closeup_2800px.jpg#/media/File:Swamp_Milkweed_Asclepias_incarnata_Flowers_Closeup_2800px.jpg
- Spotted Skunk photo by Brian Garrett, Flickr Creative Commons
- Stiped Skunk photo by USFWS
- All other photos by Kerry Wixted

We want to hear from you!

Letters, e-mail, photos, drawings, etc!

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Lawrence J. Hogan, Governor, Mark J. Belton, DNR Secretary

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