



DePauw Nature Park

Field Guide to Wildflowers

All photographs are by Vanessa Fox,
unless otherwise indicated.

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Appendaged waterleaf

Hydrophyllum appendiculatum

Waterleaf family, Hydrophyllaceae

- Flowers are ½” wide with five lavender petals
- Stamens are long, extend outside of the flower petals.
- Stem is hairy.
- Leaves are large, palmately lobed.
- Plant is a biennial, takes two years to reach maturity. During the first year, the plant consists of a basal group of green leaves. During the second year, the plant produces taller stems, more leaves, and flowers.
- Blooms during mid-spring, in May.
- Flowers look similar to fernleaf phacelia (*Phacelia bipinnatifida*; see page 12), but leaves are different. Leaves of appendaged waterleaf are palmately lobed (like a palm) and leaves of fernleaf phacelia are pinnately lobed (like a feather).

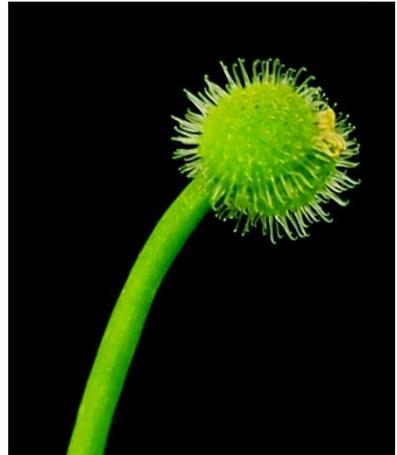


Bedstraw

Galium aparine

Bedstraw family, Rubiaceae

- Stems are covered with small hooked hairs which readily become attached to fur, feathers, and clothing, like Velcro. These Velcro-like hooks facilitate dispersal of the plant
- Stems are up to 3 feet long and are square in cross-section.
- Leaves are long and narrow, up to 3" long, in whorls of 8 around stem.
- Tiny white flowers are on stalks emerging from leaf axils.
- Fruits are globular, covered with hooked hairs, readily become attached to animal fur, socks, and shoelaces.
- Referred to as "bedstraw" because the plant was once used to stuff mattresses.
- Blooms during mid- to late spring, in May and June.



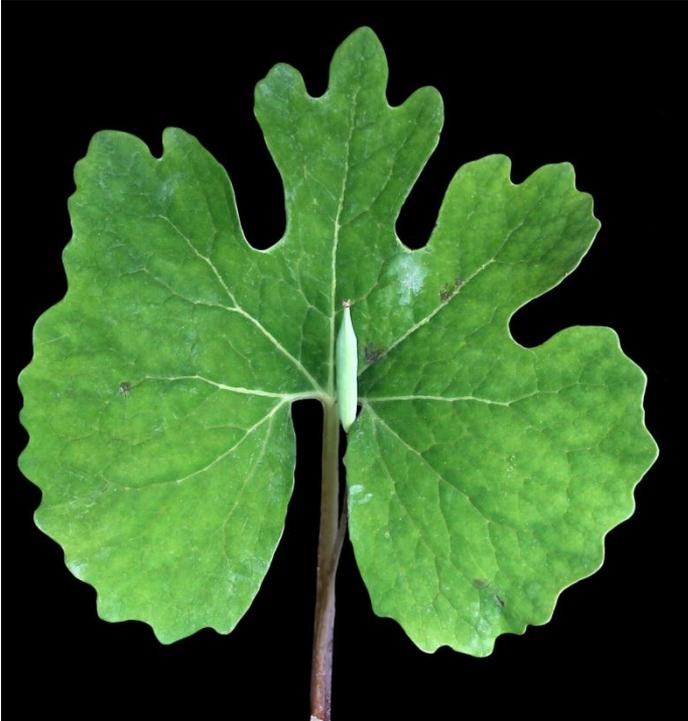
Bloodroot

Sanguinaria canadensis

Poppy family, Papaveraceae

- Bloodroot is one of the first wildflowers to bloom in the spring.
- Bloodroot has a single palmately lobed leaf which surrounds the flower stalk.
- Single white flower is showy, white, with 8 to 12 petals, and bright yellow stamens.
- Flowers are 1 to 1½” wide.
- Flowers are very short-lived, open for only two days.
- Flowers are self-compatible and are also cross-pollinated by small bees and flies.
- Fruit is an elongated green pod.
- Seeds bear elaisomes and are dispersed by ants.
- Plants spread asexually by underground rhizomes.
- The juice of the stem and root is dark red, hence the common name “bloodroot.”
- The juice contains sanguinarine, a toxic alkaloid which blocks the action of $\text{Na}^+ - \text{K}^+ - \text{ATPase}$ pumps in cell membranes. The juice is even toxic to skin. However, studies have shown that sanguinarine causes targeted apoptosis (programmed death) of human cancer cells. Extracts from bloodroot may have a potential therapeutic use in the future treatment of cancer.
- Blooms during early spring, in late March or early April.





Common chickweed

Stellaria media

Pink family, Caryophyllaceae

- Flowers are small, ¼” in diameter, star-shaped, white.
- Five white petals are deeply lobed, gives the appearance of ten petals.
- Sepals are longer than petals.
- Leaves are short, broadly oval.
- Plant is native to Europe and is often eaten by chickens, hence the name “chickweed.”
- Plant is a very successful weed and is widely distributed throughout the world.
- Blooms during early to mid-spring, in April and May



Cutleaf toothwort

Cardamine concatenata

Mustard family, Brassicaceae

- Leaves are deeply lobed into five segments with large teeth on the margins
- Flowers are small, about ½” in diameter, with four white petals
- Fruit is an elongated pod.
- Flowers are borne in a floppy cluster at the tip of the stem
- Plant spreads asexually through underground rhizomes.
- Blooms during early spring, in April.

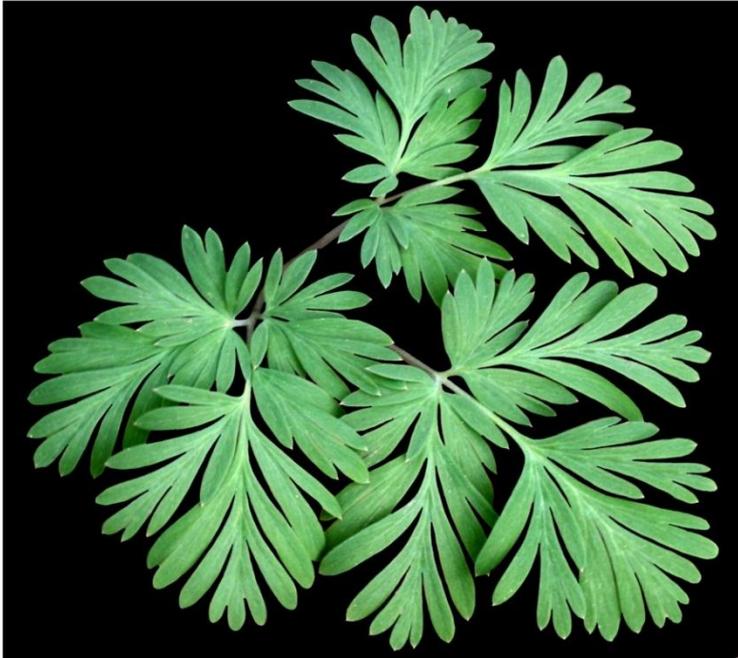


Dutchman's breeches

Dicentra cucullaria

Poppy family, Papaveraceae

- Flowers are white, hang in a row from an arched stem.
- Each flower has two inflated spurs that look like legs of tiny pants hanging on a clothesline, hence the name “Dutchman’s breeches”
- Inflated spurs of the flowers contain nectar
- Flowers are pollinated exclusively by nectar-feeding queens of the two-spotted bumblebee, *Bombus bimaculatus*
- Leaves are finely dissected.
- Seeds bear elaisomes and are dispersed by ants.
- Blooms during mid-spring, in May.



False anemone

Enemion biternatum

Buttercup family, Ranunculaceae

- Each leaf has three leaflets
- Leaflets are oval with lobed margins
- Flowers are showy, white, up to 1" in diameter
- Each flower has 5 white petal-like sepals, a few green pistils, and a ring of stamens with yellow anthers
- Flowers do not have true petals
- Flowers move around easily in the wind
- Blooms in mid-spring, late April and early May
- Often occurs in dense colonies, spreads via underground tubers
- Looks very similar to rue anemone, *Thalictrum thalictroides* (see page 21). False anemone flowers always have 5 white sepals whereas rue anemone flowers usually have more than 5 white sepals



Fernleaf phacelia

Phacelia bipinnatifida

Forget-me-not family, Boraginaceae

- Flowers are ½” wide with five lavender petals
- Stamens are long, extend beyond flower petals.
- Stem is hairy.
- Leaves are pinnately lobed (like a feather).
- Blooms during mid-spring, in May.
- Plant is a biennial, takes two years to reach maturity.
- Flowers look similar to appendaged waterleaf (*Hydrophyllum appendiculatum*; see page 4), but leaves are different. Leaves of fernleaf phacelia are pinnately lobed (like a feather) and leaves of appendaged waterleaf are palmately lobed (like a palm).





Garlic mustard

Alliaria petiolata

Mustard family, Brassicaceae

- Plant is native to Europe and parts of Asia and Africa.
- Plant is a biennial, takes two years to reach maturity.
- During the first year, plants consist of small, rounded leaves, and during the second year, plants produce a deep taproot, tall stems, more leaves, flowers, and fruit.
- Plants are unrelated to garlic, but smell like garlic when crushed.
- Flowers are small, white, with four petals.
- Fruits are long, slender pods.
- Seeds are small, shiny, black, and are readily dispersed by wind, water, and animals.
- Flowers are self-fertilized or cross-pollinated by insects.
- Plant was introduced to North America during the 19th century and has successfully invaded many plant communities. It often becomes the dominant understory plant in forests, and it is difficult to eradicate.
- Plant produces allelochemicals which suppress mycorrhizal fungi in the soil, that most other plants rely on to support their growth.
- Blooms in mid-spring, in May.





Golden ragwort

Senecio aureus

Aster family, Asteraceae

- Basal leaves are oval in shape with toothed edges. Upper leaves are narrower, pinnately lobed.
- Stem is erect, 1 to 3 feet tall.
- Flowers are daisy-like, small, bright yellow.
- Each flowerhead is a composite, composed of multiple disk and ray flowers.
- Disk flowers are in the center of the flower head.
- Ray flowers are the “petals” of the daisy, located around the perimeter of the flower head.
- Blooms during spring, during late April and May.



Jack-in-the-pulpit

Arisaema atrorubens

Arum family, Araceae

- Flowers have a spathe and spadix. The spathe is the “pulpit” and the spadix is the “jack.” The spathe is a green flap-like sheath that folds over the spadix. The spadix is greenish-yellow and covered with very small flowers.
- Flowers are pollinated by flies.
- Fruits are small berries clustered together on the spadix. Fruits are initially green, then turn bright red when ripe.
- Plant is a perennial and requires three or more years to become large enough to produce flowers.
- Leaves have long petioles and three large leaflets.
- Plants spread asexually by underground rhizomes.
- An individual plant may have male flowers, female flowers, or both male and female flowers on its spadix. All flowers are cross-pollinated by flies.
- Blooms in mid- to late spring, in May and June.



Mayapple

Podophyllum peltatum

Barberry family, Berberidaceae

- Plant is up to 16" tall, grows in large colonies.
- Individual plants in a colony are connected by underground rhizomes.
- Leaves are large, umbrella-like.
- Plants with two leaves produce flowers.
- Plants with only one leaf do not produce flowers
- Each two-leafed plant has a single white flower, 2" in diameter, borne beneath the leaves.
- Flowers are pollinated by bees, but can only be cross-pollinated by bees visiting multiple colonies of plants.
- Fruit is yellowish-green, 2" in diameter, referred to as a "mayapple." But it isn't really a mayapple because the flowers are produced in May and the fruit ripens later in the summer.
- Fruit is edible in small amounts, but is poisonous when consumed in large amounts.
- Plant contains podophyllotoxin, a secondary compound which is effective in treating warts and is being investigated as an anticancer treatment.
- Blooms in mid-spring, in May.





Photo source: http://en.wikipedia.org/wiki/Podophyllum_peltatum

Miami mist

Phacelia purshii

Forget-me-not family, Boraginaceae

- Flowers are ½” wide with five pale purple or pale blue petals
- Flower petals are fringed on the edges.
- Leaves are long, pinnately divided (like a feather)
- Flowers are produced in clusters at the tips of stems
- Blooms in mid-spring, in May.
- Also known as “fringed phacelia”



Rue anemone

Thalictrum thalictroides

Buttercup family, Ranunculaceae

- Leaves are oval with lobed margins, up to 1” across
- Leaves are arranged in whorls around stem
- Flowers are arranged in groups at the tip of the stem
- Flowers are showy, white, up to 1” in diameter
- Each flower has 5 to 10 white petal-like sepals, a dense cluster of small green pistils, and a ring of stamens with yellow anthers
- Flowers do not have true petals
- Also referred to as “windflower” because its showy flowers move around easily in the wind
- Blooms in mid-spring, late April and early May
- Looks very similar to false anemone, *Enemion biternatum* (see page 11) . Rue anemone flowers usually have more than 5 white sepals whereas false anemone flowers always have 5 white sepals



Snakeroot

Sanicula canadensis

Parsley family, Apiaceae

- Flowers are small, greenish, bur-like
- Leaves are palmately divided into three leaflets
- Leaflets are ovate, coarsely toothed
- Each bur-like fruit contains two seeds
- Blooms in mid- to late spring, in May and June.





Solomon's seal

Polygonatum biflorum

Lily family, Liliaceae

- Stem is unbranched, slender, arching.
- Flowers are small, ½" long, bell-shaped, greenish-yellow, usually in pairs, dangling beneath leaf axils under the arching stem.
- Fruits are bluish-black berries.
- Leaves are large with conspicuous parallel veins.
- Blooms in late spring, in June

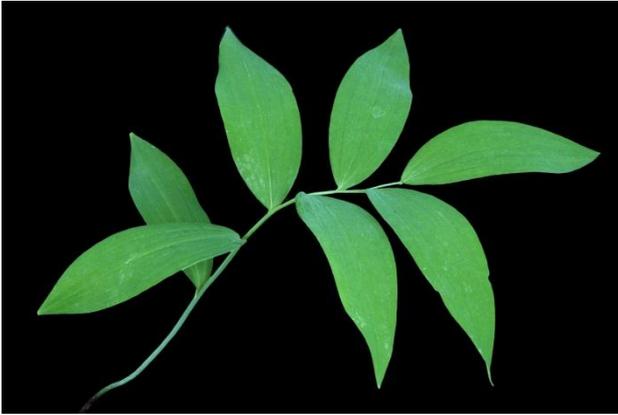


Photo by Patrick Mayon,
posted on www.flickr.com

Spiderwort

Tradescantia virginiana

Spiderwort family, Commelinaceae

- Leaves are up to 1 foot long, 1” wide, folded lengthwise, forming a groove
- Leaves are lance-shaped with parallel veins.
- Flowers are about 1” in diameter with three petals.
- Petals are violet-blue or purple.
- Stamens have yellow anthers.
- Blooms in late summer, in August and September.



Spring beauty

Claytonia virginica

Purslane family, Portulacaceae

- Leaves are narrow, lance-shaped, 3 to 5" long
- Flowers are ½" wide with five petals
- Petals are white or pink, with darker pink stripes.
- Anthers are pink.
- Seeds bear elaisomes and are dispersed by ants.
- Variation in flower color appears to be maintained by a combination of both pollinators and herbivores. Both pollinators and herbivores are more attracted to pink flowers than white flowers. White flowers are less likely to be pollinated, but are less likely to be damaged by herbivores, such as slugs.
- Blooms in early spring, in April.



Drawing source:
Gordon Morrison,
illustrator of
Newcomb's Flower
Guide, 1977.





Squirrel corn

Dicentra canadensis

Poppy family, Papaveraceae

- Flowers are white, heart-shaped, ½” long
- Leaves are finely dissected.
- Seeds bear elaisomes and are dispersed by ants.
- Flowers are pollinated exclusively by nectar-feeding queens of the two-spotted bumblebee, *Bombus bimaculatus*
- Blooms in mid-spring, in May.



Star chickweed

Stellaria pubera

Pink family, Caryophyllaceae

- Plant is in the same genus as common chickweed, *Stellaria media*
- Flowers are larger than common chickweed, ½ inch in diameter, star-shaped, white.
- Flowers are pollinated by bees and flies
- Five white petals are deeply lobed, gives the appearance of ten petals.
- Stamens have reddish-brown anthers.
- Sepals are shorter than petals.
- Leaves are oblong, up to 3” long, 1½” wide.
- Blooms in mid-spring, in May.



Stinging nettle

Urtica dioica

Nettle family, Urticaceae

- Leaves and stems are covered with hollow stinging hairs.
- Stinging hairs act like hypodermic needles, inject histamine and other chemicals which produce a stinging sensation when contacted by humans and other animals
- Stems are tall, grow up to 4 feet tall.
- Plants spread asexually by underground rhizomes.
- Leaves are heart-shaped with strongly serrated margins
- Flowers are small, greenish or brownish, borne in dense inflorescences emerging from leaf axils
- When an animal brushes against a stinging hair, the tip of the hair is broken off, leaving a pointed structure that looks like a hypodermic needle. The point penetrates the animal's skin and injects the toxin into the animal's flesh.
- Despite the stinging hairs, some herbivores, including cattle, sheep, deer, and rabbits, feed on this plant. Herbivores prefer to feed on plants with fewer stinging hairs. Plants respond to herbivory by increasing production of stinging hairs. This is a type of induced response.
- Blooms in late spring, summer, in June, July.





Drawing source: Prof. Dr. Otto Wilhelm Thomé *Flora von Deutschland, Österreich und der Schweiz* 1885, Gera, Germany

Swamp buttercup

Ranunculus hispidus

Buttercup family, Ranunculaceae

- Flower is 1" in diameter with five shiny, yellow petals and numerous yellow stamens surrounding a green center
- Leaves are large, lobed, usually in three parts, with irregular teeth around the edges.
- Blooms in mid-spring, in May.



Sweet cicely

Osmorhiza longistylis

Parsley family, Apiaceae

- Flowers are tiny, arrayed in flat clusters or umbels at the tips of stems.
- Female styles are long, extend out of petals, hence the species name, *longistylis*.
- Leaves are pinnately divided.
- Leaves are parallel to the ground, in flat arrays.
- Leaves smell like licorice when crushed.
- Roots are also aromatic, smell like licorice.
- Blooms in mid-spring, in May.



Toad trillium

Trillium sessile

Lily family, Liliaceae

- Flower is dark red, large, solitary
- Plant always has three leaves and three petals, hence the name “trillium.”
- Leaves are mottled with two shades of green.
- Flower is stalkless, nestled in the middle of the three leaves, hence the Latin species name, *sessile*.
- Seeds bear elaisomes and are dispersed by ants.
- Blooms in mid-spring, in April and May.



Trout lily

Erythronium americanum

Lily family, Liliaceae

- Flower is solitary, nodding, with six yellow petals, six red stamens, and one pistil.
- Flowering plants have two broad leaves at their base.
- Non-flowering plants have only one leaf at their base.
- Only about 1 percent of individuals in a population produce flowers in a given year.
- Leaves are olive greenish-brown, mottled, presumably look like the coloring of a brook trout, hence the name “trout lily.”
- Plants spread asexually by underground rhizomes.
- Seeds bear elaisomes and are dispersed by ants.
- Blooms in early spring, in mid-April.



Violet

Viola spp.

Violet family, Violaceae

- Violets have heart-shaped, scalloped leaves
- Petioles are absent or very short.
- Flowers are zygomorphic with five petals. There are two petals on each side and one broad lower petal.
- Seeds are nut-like.
- Flower petals are violet, yellow, or white.
- Blooms during spring, in April and May.

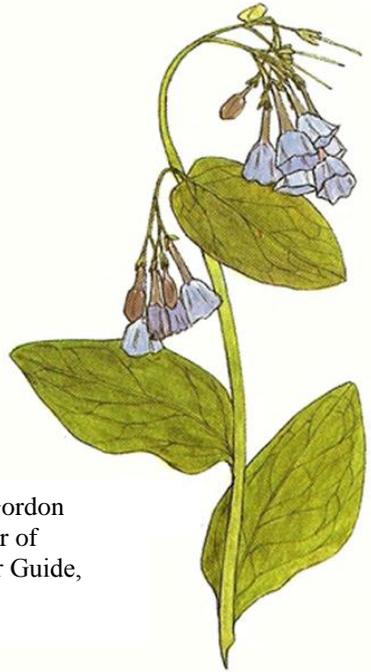


Virginia bluebells

Mertensia virginica

Forget-me-not family, Boraginaceae

- Flowers are blue, showy, trumpet-shaped.
- Leaves are rounded, grayish-green, 2 to 5" long.
- Plant is 1 to 2 feet tall.
- Stem is smooth, succulent.
- Flowers are pollinated by bees, butterflies, moths, hummingbirds.
- Blooms in mid-spring, in May.



Drawing source: Gordon Morrison, illustrator of Newcomb's Flower Guide, 1977.



Virginia waterleaf

Hydrophyllum virginianum

Waterleaf family, Hydrophyllaceae

- Leaves are pinnately lobed with 5 to 7 lobes
- Leaves are usually mottled and look like they were stained with water, hence the common name, “waterleaf”
- Flowers are small, white or bluish.
- Flowers have long stamens emerging from the petals.
- Plant may be 1 to 3 feet tall.
- Plant spreads asexually by underground rhizomes.
- Blooms in mid-spring, in May.





Wild blue phlox

Phlox divaricata

Phlox family, Polemoniaceae

- Flowers are bluish-violet, lavender, pinkish, or white
- Flowers are 1" in diameter
- Flowers have five flat petals that are fused together at their base
- Base of flower is tube-shaped
- Flowers are produced in showy clusters at the tip of a stem
- Leaves are long and thin, up to 2" long
- Plants spread asexually through underground roots
- Blooms in spring, in April and early May



Wild chervil

Chaerophyllum procumbens

Parsley family, Apiaceae

- Plant looks like parsley
- Leaves are finely dissected, pinnately lobed
- Flowers are tiny, less than 1/8" in diameter, with five white petals
- Flowers are produced in umbels at the tip of a stem
- Blooms in spring, in April and May



Wild geranium

Geranium maculatum

Geranium family, Geraniaceae

- Flowers are pale purple, lavender, or pale pink, 1 to 1½" wide.
- Flowers are located at top of stems.
- Leaves are palmately lobed with five or seven deeply cut lobes.
- Lower leaves have longer petioles.
- Stems grow up to 10 to 20" tall.
- Plants spread asexually by underground rhizomes.
- Wild geranium is gynodioecious. This means that flowers may be perfect, with both male and female parts, or may be imperfect with only female parts and no male parts.
- Cultivated geraniums are a different genus and species but are in the same family as the wild geranium.
- Blooms in mid-spring, in late April and May.

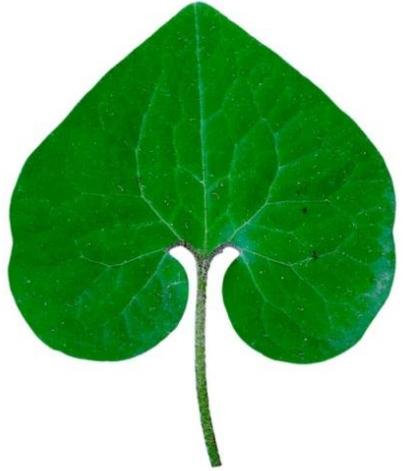


Wild ginger

Asarum canadense

Pipevine family, Aristolochiaceae

- Leaves are large, 6 to 8" wide, heart-shaped, with hairy petioles
- Flower is cup-shaped, dark reddish-brown, about 1" wide, usually hidden by the leaves.
- Plants spread asexually by underground rhizomes.
- Flowers are self-pollinated.
- Seeds bear elaisomes and are dispersed by ants.
- Wild ginger has similar aromatic properties to true ginger, *Zingiber officinale*, but these two plants are completely unrelated. Wild ginger should not be used as a spice or a substitute for true ginger because wild ginger contains a carcinogen, aristolochic acid.
- Blooms in mid- to late spring, in May and June.



Wild strawberry

Fragaria virginiana

Rose family, Rosaceae

- Each leaf has three leaflets. Leaflets are 3" long, 1½" wide, pale green underneath, with coarsely serrated margins.
- Flower is about ¾" in diameter with 5 white petals and about 25 yellow stamens surrounding a small blunt cone.
- Fruit is a small red berry, about ½" long, shaped like the familiar cultivated strawberry.
- Fruit is edible, sweet.



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For more information about the DePauw Nature Park, contact Vanessa Fox at 765-658-4772, vfox@depauw.edu or visit the Nature Park web site at www.depauw.edu/about/campus/naturepark/.



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