

Illinois Pollinators Identification Cards



For the Instructor: Introduction to Pollinator Cards

The animals featured on these 24 cards are common pollinator species that may be seen throughout Illinois. They by no means represent all pollinators that visit flowers in the state. They were included to show species that you have a good chance of seeing if you take your class outdoors to study pollinators. These species are also relatively easy to identify.

Students most likely will want to know an identification for every species they see. It may be very difficult or impossible to do so. Many insects cannot be identified without close examination of wing venation and leg structures.



Your field trip may be more successful if you practice identification skills before visiting the flowers. Start by identifying groups of pollinators: bees; beetles; birds; butterflies; flies; and moths.

These categories are represented in the cards. They are not the only pollinator groups, however. For example, you may see wasps at flowers. Wasps can pollinate but not as effectively as bees, flies and the other categories depicted here. Wasps do not have structures, particularly numerous hairs, that some of the better pollinators possess. Learn to identify the traits of each group. Then try to find the individual species from the cards. Several of the included species are mimics, and they may be more challenging to identify.



Insects: six legs; three body segments (head, thorax, abdomen); two pairs of wings (most insects)

- bees (dark blue border): thick body with division between thorax and abdomen easy to see; four wings; hairs present; stocky legs; long, slender antennae; eyes on side of head
- beetles (purple border): biting or chewing mouthparts; four wings, the first pair (forewings) hard and used to cover the second pair (hindwings) when not in flight
- butterflies (orange border): antennae long with a club tip; four wings; wings covered with scales; slender legs



- flies (green border): broad connection between thorax and abdomen; two wings; may have hairs; short antennae; thin legs; eyes face forward and may touch each other
- moths (red border): antennae threadlike or feathery (not club-tipped); four wings; wings covered with scales; smaller wings than butterflies

Birds (gold border): feathers; two wings; one pair of legs; beak



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American bumble bee (*Bombus pensylvanicus*)

Bumble bees nest in the ground, among leaves on the ground or in piles of wood. These large bees (about three-eighths to one inch in length) have yellow hair on the head, thorax and abdomen. They are active from March to September and are found throughout Illinois. Bumble bees are long-tongued bees.





Photo © 2018, Danny Brown

eastern carpenter bee (*Xylocopa virginica*)

Carpenter bees (about three-eighths to one inch in length) are among the largest bees in Illinois. The wings are dark-colored. They are active from April through September. The carpenter bee has few hairs on its abdomen so the abdomen appears shiny. These long-tongued bees are found statewide.



Photo © 2018, Rob Curtis, The Early Birder

common eastern bumble bee (*Bombus impatiens*)

Bumble bees nest in the ground, among leaves on the ground or in piles of wood. These large bees (about three-eighths to one inch in length) have yellow hair on the head, thorax and abdomen. They are active from March to September and are found throughout Illinois. Bumble bees are long-tongued bees.





Photo © 2018, Rob Curtis, The Early Birder

green sweat bee (*Augochloropsis metallica*)

These small bees (one-fourth to about one-half inch in length) feed on nectar and the honeydew of aphid colonies. They are active April through September and nest in soil. Sweat bees are short-tongued bees. They are found throughout Illinois.



Photo © 2018, Joe Bauer, Illinois Department of Natural Resources



honey bee (*Apis mellifera*)

Honey bees are native to Europe. They were brought to North America in the 1600s by people. Honey bees are social bees, having a queen and workers in a hive, and they produce honey. Honey bees are active between temperatures of 55°F and 105°F.



They are long-tongued bees. The workers are about one-half inch long. Honey bees can be found throughout Illinois.





Photo © 2018, Rob Curtis, The Early Birder

leafcutter bee (*Megachile latimanus*)

The leafcutter bees (about one-fourth to three-fourths inch long) paper their nest with pieces of leaves. They are solitary bees with large jaws, and they nest in wood and other cavities. The body is stocky and hairy. These bees are active from April through September.



Female leafcutter bees carry pollen under their abdomen instead of on their legs as most other bees do. Leafcutter bees are found statewide.



Photo © 2018, Pauline Horn



Photo © 2018 Thom Wilson of Baltimore City, MD, cityecology@gmail.com

mason bee (*Osmia georgica*)

These solitary bees (about one-tenth to five-eighths inch long) have metallic coloration. Each body section is roughly spherical in shape. These bees are active from March through August. They use an empty cavity in which to build their nest of mud. They are called "mason" bees after



people, known as "masons," who use "mud" to hold together brick and/or stone in building projects. Mason bees can be seen throughout Illinois.





Photo © 2018, Rob Curtis, The Early Birder

sunflower bee

(*Andrena helianthi*)

The sunflower bee is a type of mining bee. Mining bees are small (one-fourth to about five-eighths inch long). They are usually red-brown or brown-black. They are known as “mining bees” because they nest in soil burrows. Mining bees start to fly very early in spring and are important pollinators of spring flowers. They are active from March to September and are found throughout Illinois.



Photo © 2018, Rob Curtis, The Early Birder

sweat bee

(*Agapostemon virescens*)

These sweat bees are most active from April through October. They nest in the ground. The thorax is green in males and females. The males have a black-and-yellow striped abdomen. Sweat bees are short-tongued bees. They are found throughout Illinois.





Photo © 2018, Rob Curtis, The Early Birder

black blister beetle (*Epicauta pennsylvanica*)

Blister beetles (up to three-fourths inch long) produce a chemical that can be released through their legs to cause irritation and blisters on those animals trying to eat them. The body is elongate with a broad head and short neck. Adults of this species are active in summer and fall. They can be seen on goldenrods and many other plant species throughout Illinois.



Photo © 2018, Adele Hodde, Illinois Department of Natural Resources

goldenrod soldier beetle (*Chauliognathus pensylvanicus*)

Goldenrod soldier beetles are long (up to about one-half inch), soft-bodied insects with a black head. They are distasteful to predators and have warning coloration to indicate this fact. Adults of this species eat pollen and drink nectar from goldenrods and other flowers in late summer and fall. They can be found statewide.





Provided by SteveByland/pond.com

ruby-throated hummingbird (*Archilochus colubris*)

The ruby-throated hummingbird averages three to three and three-quarter inches in length. The male has a red throat, green back and a forked tail. The female shows no red and has a blunt tail that is edged with white. Spring migrants begin arriving in Illinois in mid-April. This bird lives in woodlands, wood edges, weedy areas and gardens. It eats flower nectar and is particularly attracted to columbine, trumpet vine and other tube-shaped flowers.



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buckeye butterfly (*Junonia coenia*)

The buckeye is found statewide. Its wingspan is about one and one-half to two and three-fourths inches. The upper surface of the wings is brown with a total of six eyespots. Paired orange marks are present on the front edge of each wing with an orange band on the back portion of each wing. A white mark can also be seen on the front of the wing. The buckeye is a species of open areas and feeds on a variety of nectar-producing flowers, staying close to the ground when flying. Adults may be seen from April through early November. This species cannot overwinter in Illinois, so adults migrate south out of the state in fall and return north in the spring.





Photo © 2018, Rob Curtis, The Early Birder

cabbage butterfly (*Pieris rapae*)

The cabbage butterfly has a wingspan of about one and three-fourths to two and one-fourth inches. Its wings are white on the upper surface with the tip of the forewing black. One or two black spots are also present on the forewing. The underside of the wing has yellow or green-gray at the tip of the forewing and on all the hindwing. This species lives in open, weedy areas where it visits flowers for nectar. This butterfly is active from March through November. It was introduced to North America about 1860 and first seen in Illinois in 1875. It is native to Europe and northern Africa.



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gray hairstreak (*Strymon melinus*)

Found statewide, although less common in the northern one-third of Illinois than elsewhere, the gray hairstreak is a butterfly of open areas. The wingspan is about one and one-fourth inches. Each hindwing has two tails. The upper wing surface is gray-brown. The lower surface is gray with a broken line of white, black and orange. An orange spot with a black dot can be seen on each side of the wing.



The adult often perches with its wings open. It is active from April through October and overwinters as a chrysalis. The adult takes nectar from a variety of plants.





Photo © 2018, Joe Bauer, Illinois Department of Natural Resources

monarch (*Danaus plexippus*)

The monarch has a wingspan of three and one-fourth to four and seven-eighths inches. The male has bright orange wings with black veins and black edging. The black border contains two rows of white spots. The female is dull orange. The body and antennae are black. The front legs are small and not used for walking. The monarch may be found statewide in Illinois. It can be seen in open weedy areas, roadsides, fields, pastures and marshes. This migratory species overwinters in central Mexico or rarely in the United States along the coasts of the southern Atlantic Ocean or the Gulf of Mexico. The larvae eat milkweeds. Adults visit flowers for nectar.

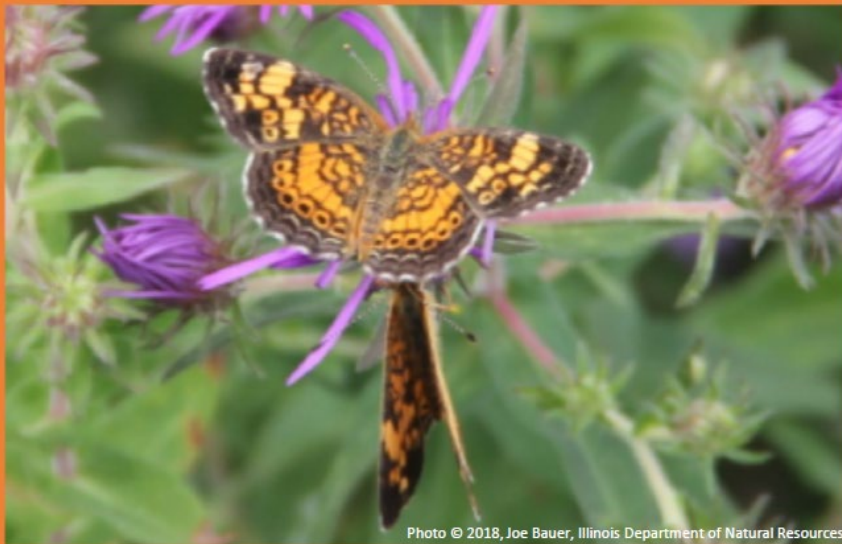


Photo © 2018, Joe Bauer, Illinois Department of Natural Resources

pearl crescent (*Phyciodes tharos*)

The pearl crescent is a small, brown butterfly. The wingspan is about one and one-fourth to one and five-eighths inches. The upper side of the wings is orange-brown with dark brown or black markings. The lower side of the wings is yellow-orange. There is a white crescent in the dark patch of the hindwings. The pearl crescent butterfly may be found statewide in Illinois in open weedy areas, roadsides, pastures and fields. The adult feeds on nectar from a variety of flowers. It is active March through October. The larvae feed primarily on asters. The species overwinters in the larval stage.





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sulphur butterflies (Family Pieridae)

The sulphur butterflies are common throughout Illinois. Some of them are active from March to November, while others may only be found for a month or so. They vary in size, but the wingspan is no more than three inches. They are all yellow or yellow-green. They usually sit with their wings closed. These species live in open areas and feed on nectar from many different types of flowers.



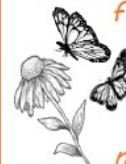
They are often seen on the ground around puddles of water, too. The chrysalis is the overwintering stage. The eggs of these butterflies turn red or orange after they have been deposited on a plant.



Photo © 2018, Joe Bauer, Illinois Department of Natural Resources

tiger swallowtail (*Papilio glaucus*)

The male tiger swallowtail is yellow with black stripes. The female has two forms: one like the male and another that is all black. Both female forms have iridescent blue on the upper side of the hindwings. The underside of the forewing has a row of yellow spots, while the underside of the hindwing has orange and blue coloring. The hindwing also has a projection



from the rear edge. The tiger swallowtail has a wingspan of three and five-eighths to six and one-half inches. This species may be found statewide in Illinois. The adult eats flower nectar. It overwinters in the chrysalis stage.





Photo © 2018, Rob Curtis, The Early Birder

large bee fly (*Bombylius major*)

Large bee flies are about one-half inch to three-quarters inch long. Their wings are held straight out when at rest. There are dark areas on the front of the wings. The long structure that can be seen at the anterior end is made of mouthparts that help it drink flower nectar. This species may be found statewide in Illinois. It is a bee mimic, making a buzzing sound like that produced by a bee and resembling a bee as well. The larvae are parasites on other insect larvae and eggs.



Photo © 2018, Rob Curtis, The Early Birder

transverse flower fly (*Eristalis transversa*)

This small insect is about three-eighths inch in length and is a honey bee mimic. Its thorax has two colors: gray on the front half; and black on the back half. The abdomen is black with yellow bands. Adults are active from about April through November, feeding on flower nectar, especially from plants that have aphid populations. The larvae eat aphids and other soft-bodied insects.





Photo © 2018, Rob Curtis, The Early Birder

yellow-shouldered drone fly (*Eristalis stipator*)

This insect is about four-tenths to one-half inch in length. It is a mimic of the honey bee, specifically the male honey bee, or drone. Its thorax is brown. The abdomen has a thin white band followed by a thick black band on the second segment with an open red-brown or dark-gold band present. The remainder of the abdomen is black with thin, white cross bands. The thorax has short buff-colored hairs. This species is found statewide. It is active from late May through mid-September, feeding on flower nectar.



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Ailanthus webworm moth (*Atteva aurea*)

The Ailanthus webworm moth is about one-half inch in length. Its red-orange forewings have four, wide black bands surrounding pale yellow spots. The hindwings are gray. This insect may look like a wasp when flying. The adult is active from March through November. Unlike many moths, the adults of this species are active during the day. They feed on flower nectar. The larvae make nests on their host plant by pulling leaflets together in webbing they produce (webworm). The larvae often live on the tree-of-heaven (*Ailanthus altissima*), giving rise to the common name, "Ailanthus webworm." This species is found statewide.





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clearwing sphinx moths (*Hemaris* spp.)

These moths are hummingbird mimics that are active during the day. The wings are clear with dark borders and veins. Their body colors vary, but from above they usually show a large light area on the front half of the body, followed by a dark band then a lighter area again. Adults feed on flower nectar statewide in forests, open areas and urban areas. The body is about one inch in length with a wingspan of about one and one-fourth to two and one-fourth inches. The species is active from April to August. It overwinters in the pupal stage.



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