

Theatre in the Park



Illinois State Theatre: The Great American People Show was a nonprofit theatre company that presented plays about American history, especially with a focus on Abraham Lincoln's life. The **theatre** started in 1976 and ran for 20 years in Lincoln's New Salem, near Springfield. In 1995, Illinois designated "The Great American People Show" as the official "state **theatre** of Lincoln and the American Experience." In June 2022, this designation was revised to name "**Theatre in the Park**" at Lincoln's New Salem State Historic Site near Petersburg as the official **State Theatre**.

Dolostone



Dolostone was named the State Rock of the State of Illinois in 2022. **Dolostone** is composed of **dolomite**, a mineral that is

a compound of calcium, magnesium, carbon and oxygen. **Dolomite** may have a shiny and sparkling appearance or may look dull. Many **dolostones** in Illinois were originally limestones in which the calcite mineral was replaced with **dolomite** as magnesium-filled water moved through the rock.

Dolostone is found throughout the state. It is mined in quarries. **Dolostone** quarries are located mainly in the northern one-fourth, along the western side and in the southern tip of the state where this rock is close to the surface. **Dolostone** deposits in the remainder of the state are deep underground and would be difficult and expensive to remove.

Dolostone is important to Illinois in many ways. It is used in road construction. It is used in the production of magnesia (MgO), a chemical used in ceramics and metallurgy to remove impurities. Concrete production includes **dolostone**. Chunks of **dolostone** are used along stream banks and shores to control erosion. **Dolostone** removes pollutants from medical and hazardous waste incinerators, coal-fired power plants and other industrial facilities. This rock is used in agriculture to neutralize soil acidity and to provide magnesium and calcium nutrients as fertilizer for plants.

Source: Kolata, Dennis R. and Cheryl K. Nimz, Editors. 2010. *Geology of Illinois*. University of Illinois at Urbana-Champaign, Institute of Natural Resource Sustainability, Illinois State Geological Survey, Champaign, Illinois. 530 p.



Milkweed

The plants commonly known as "**milkweed**" (genus *Asclepias* spp.) in Illinois, were designated the official State Wildflower in 2017. These plants are important nectar sources for pollinators and are vital to the larval stage of the monarch butterfly (*Danaus plexippus*). You can learn more about these 19 species at

<https://www2.illinois.gov/dnr/education/Pages/WildAboutPlantsMilkweeds.aspx>.

Milkweeds are soft-stemmed plants that die to ground level at the end of each growing season but grow back from the roots the next spring. Most have leaves that are paired on the stem or in whorls of four on the stem, but there are also **milkweed** plants with leaves alternating on the stem, and those that have so many leaves that it is hard to see a pattern. Most of them have sap that is white and milky. **Milkweed** plants contain cardiac glycosides. These chemicals are poisonous and affect birds and mammals. However, a few animal species have adapted to eating **milkweeds**. Monarch larvae feed exclusively on **milkweeds** of the *Asclepias* and *Ampelamus* genera. The poisons accumulate in the body of the larval monarchs and are retained by the monarch in its transformation to the adult. They make monarchs unpalatable to many predators.

Milkweed flowers develop at the stem tip or in the leaf axils in the upper part of the plant. In some **milkweed** species the flowers are arranged in a spherical shape, while in other species the flowers droop. Color varies by species, but **milkweeds** can be found with white, pink, red, orange, green, red-purple and purple-pink flowers. The flowers are often described as having an hourglass shape. Each flower has five petals and five sepals that bend away from the other flower structures. A five-parted cup supports five small horns and hoods. The hoods contain nectar and are arranged around

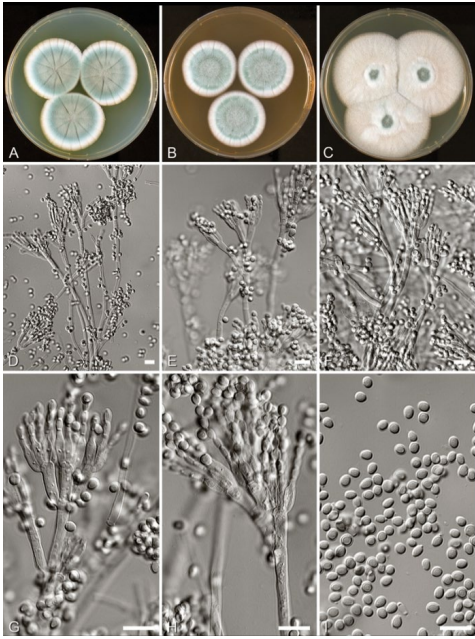
the central flower column. The flower column has slits in it. Inside each slit is an opening where pollen (containing male reproductive cells) must be delivered to fertilize the egg and start the development of a new **milkweed plant**. Also in each slit is the pollinarium that contains the pollen in packets.

Pollinators, including adult monarch butterflies, visit **milkweeds** for their nectar. Nectar is a sweet solution produced by flowers to attract pollinators. **Milkweeds** have a unique system for pollen transfer. When an insect visits a **milkweed flower** to drink nectar, its leg, antennae or bristles can slip into the slit in the flower where the pollen is stored. The pollen-containing structure clips onto the insect part. When the insect pulls away from the flower, this pollen packet goes, too. The same insect body part may slip inside a slit in the flower column of a different flower. If the pollen packet is placed precisely where it needs to be, that flower will be pollinated. If the pollen packet is not deposited in the exact position required, fertilization will not occur. The amount of precision required may be the reason that **milkweeds** produce so few fruits. Pollinator populations are declining. As their numbers continue to decrease, the number of viable seeds from **milkweeds** will also be smaller, leading to fewer **milkweed plants**, fewer **milkweed flowers** and less pollen and nectar for pollinators.

The fruit that develops from the fertilized flower is a pod that contains seeds attached to floss. Seeds with floss are easily dispersed by wind. An exception, though, is provided by the white **swamp milkweed** (*Asclepias perennis*). This species' seeds are dispersed by water instead of wind, and they do not have floss.



Penicillium rubens



Penicillium rubens is a mold (fungus) that is often found indoors. It grows well in conditions of high humidity. It has a velvety surface. Its spore-bearing filaments are smooth, 200-300 μm in length and are blue or blue-green. Its **penicilli** (hairy structures) are 8-12 μm long. It exists in several strains, including the Fleming's strain (CBS 205.57 or NRRL 824 or IBT 30142) from which the first **penicillin** was discovered, and the Wisconsin strain (NRRL1951) obtained from a cantaloupe in Peoria, Illinois, in 1944. This species has four chromosomes.

On May 31, 2021, the Illinois General Assembly approved *Penicillium rubens* as the official State Microbe. The designation serves to honor Peoria and the National Center for Agricultural Utilization Research, whose scientists with the help of local residents in the 1940s discovered a method of mass-producing **penicillin**. **Penicillin** is the most widely used antibiotic in the world. The methods were developed in time to provide **penicillin** to treat Allied soldiers wounded during the invasion of Normandy, France, which began June 6, 1944, and helped to revise pharmaceutical drug production.

The mold strain was found on a cantaloupe at a local store, not far from the laboratory in Peoria. The scientists discovered that when grown in vats with special nutrients, this *Penicillium* mold strain produced more **penicillin** than the *Penicillium* strain originally discovered by Alexander Fleming in 1928.

Work at the Peoria research center continues today, including its curation of the ARS Culture Collection that houses more than 100,000 strains of bacteria and fungi—strain NRRL 1951 among them. ARS's Culture Collection also is the largest, single collection of beneficial microorganisms in the world.

**eastern
milksnake**
*Lampropeltis
triangulum
triangulum*



The **eastern milksnake** averages 24 to 43 inches in length, has smooth scales, a y or v-shaped mark at the back of the head, large blotches (brown with black borders) on a gray or white back alternating with small blotches (33-46) on the sides and a head about the same width as the neck.

This species is found in the northern one-third of Illinois. The red milksnake (*Lampropeltis triangulum sypila*), a related subspecies, is found in the southern one-third of Illinois. It averages about 21 to 28 inches in length with a blotch that ends as a collar shape right behind the head and 19-26 larger blotches on the body. The blotches are red or orange in adults. In central Illinois, the ranges of the two subspecies overlap with intergrades between the subspecies showing a combination of elongated or collar blotch patterns and from 21-38 body blotches that can be brown or orange.

This reptile lives in fields, woodlands, rocky hillsides and river bottoms. It hides under logs, rocks and boards. It overwinters in small-mammal burrows. The **eastern milksnake** kills prey by constriction. When disturbed, it will vibrate the tail rapidly, hiss and strike. Mating occurs in the spring. About eight to 20 eggs are deposited by the female in June usually in a rotten log, stump or leaf litter. Eggs stick together. Hatching occurs in August or September. This snake feeds on small mammals, birds, reptiles, amphibians and fishes. It

Was given the name "**milksnake**" because at one time people mistakenly believed that it could milk cows.

