

COMMON MILKWEED

Everybody should be familiar with milkweeds. As kids, we liked to open a ripe seedpod and release the seeds into the air to watch them float. We also liked to break a off a leaf to observe its milky sap.

There are several species of milkweeds that are native to this area. The species that is most common around here is the Common Milkweed (*Asclepias syriaca* L.).

The Common Milkweed is a member of the Milkweed Family (*Asclepiadaceae*). The generic name, *Asclepias*, was named after *Aesculapius*, *Asclepius* or *Asklepios*, the Greek god of healing and medicine. The specific epithet, *syriaca*, was named after Syria because the Swedish botanist Carolus Linnaeus (Karl von Linne) mistakenly thought the plant was a native of the Middle East when he studied it in 1753.

The Common Milkweed has gone under many different names. Other scientific names for this plant are *Asclepias cornuti* Decaisne, *Asclepias intermedia* Vail, and *Asclepias kansana* Vail. Other common names for this plant are Common Silkweed, Cotton Tree, Cottonweed, Milkplant, Milkweed, Monarch Flower, Pink Milkweed, Rosy Milkweed, Silkgrass, Silkweed, Silky Swallowwort, Swallowwort, Virginia Silk, Virginia Swallowwort, and Wild Cotton.

Toxicity

The Common Milkweed is a toxic plant. Consuming this plant may lead to stomach and intestinal troubles, breathing difficulties, fevers, muscle spasms, staggering, sweating, weakness, and even death.

This plant is also toxic to livestock, especially cattle and sheep. Fortunately, most livestock avoid this plant in the field.

This plant contains alkaloids, resinoids, volatile oils, and the cardiac glycosides asclepiadin, syriogenin, and uzarigenin. These cardiac glycosides can increase the contractibility of the heart muscle and can both slow and strengthen the heartbeat. Although, there are some medicinal uses of this glycoside as heart medications, excessive amounts can lead to cardiac arrhythmia and cardiac arrest.

This plant can also be an external problem to some people. Their milky sap can cause contact dermatitis to some people who have sensitive skin.

Edible Uses

Although the Common Milkweed is considered to be a toxic plant, parts of it can be made edible if they are properly prepared. The parts that are edible are the young shoots (up to 8 inches high), the young leaves (until the flower buds form), the flower buds, the flowers, and the young soft fruit pods (about 1 inch long). Cutting off the young shoots will allow this plant to re-sprout a new shoot.

Do not eat any of the mature plant parts. These older parts contain more toxins than the younger parts.

The edible parts may be eaten as potherbs. They contain vitamins A and C and beta-carotene. Boiling them for about 20-30 minutes will remove the toxins. These edible parts must be placed in water that is already boiling and they must be boiled in at least 2-3 changes of boiling water. The second and third waters must also be boiling when the

plants are added. Although the plant parts should be rinsed between water changes, placing them in cold water and waiting for it to boil will only give the potherb a bitter flavor.

Because the flowers have sweet-tasting nectar, they have their own uses. The French Canadians gathered the flowers in the early morning when there is dew upon them. These dew-covered flowers can be boiled down into a palatable brown sugar. These flowers can also be chopped into pieces and made into jam.

The seeds also have edible uses. These seeds contain about 20% edible oil. This oil is similar to soybean oil and can be used as a substitute. However, these seeds must be kept dry to avoid their decomposition.

The milky sap, when exposed to the air, will dry and harden and can be chewed like gum. This sap contains fat, gum, and sugar. However, this gum will probably have a bitter taste.

Medicinal Uses

Despite the toxicity of the Common Milkweed, it also has some medicinal uses. Both the Native Americans and the early European settlers used this plant as medicine. During the 1880's, this plant was listed in the *U.S. Pharmacopeia*.

A tea made from the fresh or dried root can be used as an alterative, an anodyne, an anthelmintic, a cathartic, a cicatrisant, a diaphoretic, a diuretic, an emetic, an expectorant, and a sedative. The tea can be used to treat asthma, bronchitis, cancer, catarrh, dropsy, dyspepsia, kidney stones, pleurisy, rheumatism, scrofula, and typhoid. These roots are best collected in the fall.

Other parts of this plant had medicinal uses, too. A leaf infusion was used for treating stomach ailments. The stem can be boiled and be used as a poultice for treating rheumatism.

The milky sap can be used for treating insect stings, moles, ringworms, and warts. The sap, which contains latex, can be used as a bond for healing cuts. This sap forms a strong adhesive pellicle upon the skin. The sap can also be used for treating saddle sores.

Other Uses

Besides food and medicine, the Common Milkweed has even more uses. Both the Native Americans and the European settlers had various uses for this plant.

The Native Americans probably grew this plant for their own cultivation. Milkweed plants have been found growing near the remains of Native American homes and villages.

When the European settlers arrived, they also used and cultivated this plant. The Common Milkweed became so important to the Europeans during the colonial period that they exported some of these plants to Europe.

The flowers had uses other than food. They were used for making a dye.

The silky haired tufts were used as stuffing for cushions, mattresses, pillows, and upholstery. They were also used as insulation, as a cotton substitute, and as thread. Some factories in 19th Century New England were making clothing and other personal items from this tuft.

During World War II, these tufts were used extensively by the military. They were used as a replacement for the tropical tree, Kapok (*Ceiba pentandra* L.). These tufts were

collected by civilians and used for stuffing life jackets, life preservers, and flight suits. These tufts had a very high degree of insulation and buoyancy. Some farmers at that time even raised Milkweeds on their farms solely for their tuft.

The dried fruit pods can be used as decoration. They have been used in arts and crafts, in flower arrangements, in wreaths, and as Christmas tree ornaments.

The stem's tough outer fibers can be used as cordage. It can be used as a substitute for flax or hemp. This cordage can be used as bowstrings, fishing lines, nets, and rope. These fibers can also be made into cheap muslin cloth, paper, and sandals. To obtain these fibers, the stems must first be peeled and rolled.

The milky latex sap can be used as glue. During World War II, it was used in experiments as a rubber substitute. However, converting the latex into rubber proved to be too costly.

Present-day scientists have now found a new use for the Common Milkweed. This plant is a good indicator of damage from ground-level ozone pollution, which is harmful to humans. Exposure to ozone will leave distinct tiny dotted, dark purple or black lesions upon the upper leaf surfaces. By observing these damaged leaves, scientists will know how much harmful ground-level ozone is present.

Nuisance Plant

Although the Common Milkweed is a native plant, some people may consider this plant to be a nuisance weedy plant. It can spread rapidly and can be very difficult to eradicate.

Aside from spreading by seed, the Common Milkweed will spread by its root system and form entire colonies. Eradicating a few colony members will not eradicate the entire colony.

The plant's deep root system will allow the plant to survive droughts and soil disturbances. These deep roots can even survive plowing.

The Common Milkweed is also resistant to some herbicides. Repeated herbicide applications may be required to completely eradicate this plant.

Description of the Common Milkweed

Perennial

Height: 2½ -6 feet.

Stem: The stem is erect, downy, fibrous, grayish green to red, hollow, stout, solitary, and unbranched. These stems have milky sap. If an unwanted insect climbs the stem, its sharp feet may puncture the stem and release the sticky sap upon that insect, causing it to become stuck and even die. Baltimore Orioles (*Icterus galbula* L.) and Orchard Orioles (*Icterus spurius* L.) may strip some of the dead stems and use those strips for building their nests.

Leaves: The leaves are simple, opposite or whorled, broad, elliptical, oblong, oval, and ovate. These leaves are also thick and leathery. The leaves have rounded bases and acuminate tips, and have entire or wavy margins. Each opposite pair alternates their position from their adjacent pairs. Each leaf is about 3-11 inches long and about 2-7

inches wide. Its top is light green and its bottom is gray and downy. There is a prominent pinkish midvein on the leaf underside. Its petioles are short and stout. Like the stems, their sap is also milky.

These leaves are a favored food of the Monarch Butterfly caterpillars (*Danaus plexippus* L.). Eating these leaves will allow the toxic cardiac glycoside to be absorbed and accumulated into their bodies. Although this toxin does not harm the caterpillar, it does give the insect a bad taste, which will protect it from predators. The Monarch Butterfly also lays its eggs upon the leaf undersides (along with placing them on the stems and on the flowers).

Flowers: The flowers are fragrant and vary from pink to purple (sometimes with various shades of brown, green, red, and white). These flowers are arranged in dense, drooping, 2-4 inch wide globular or flat-topped umbelled clusters. These clusters are either located at the top of the plant or within the upper leaf axils. Each plant may have about 1-8 clusters and each cluster may have about 20-130 flowers. Each flower has a 1-inch long stalk, is about ¼-½ inch wide, is about 3-4½ inches long, and is radially symmetrical. The flower has 5 persistent hairy sepals with reflexed lobes, 5 united petals with reflexed lobes, 5 stamens, and 2 pistils. When these flowers bloom, they bloom from the center of the cluster outward. This plant usually flowers after its second year. Flowering season is usually May to August.

The 5 stamens unite with the pistil to form a central column. Atop the column is a crown or corona of 5 inflated erect hoods. Each hood is about 1/8-1/6 inch long. Located within each of these hoods is a curved horn that project outward from the hood.

This flower is insect-pollinated. The structure of the flower regulates the pollination of it. The pollen is attached to the pollinia, a waxy or granular structure that resembles a saddlebag. The pollinia are located within 5 narrow slits located upon the column.

When insects land upon the slippery central column to obtain the flower's nectar, they place their feet into those slits to get a good footing. Each slit has 2 attached pollinia. When the insect removes its feet from the slit, it may sometimes pick up one of the pollinia. With the pollinia attached to their feet, the insect transports it to another flower.

The stigma, which is also located within the slits, receives the pollen when an insect places its feet within that slit. Some insects will get their feet caught in the slits and will die trying to free itself or will fall prey to a predator.

These bright flowers may also attract Hummingbirds. Our local species is the Ruby-throated Hummingbird (*Archilochus colubris* L.).

Because of the difficulty in pollinating these flowers, very few of them are ever pollinated. A single umbel may only yield 1 fruit pod.

Fruit: The fruit is a gray-green or brown, fleshy, wooly, warty follicle or pod. This elongated or ovoid pod is about 2¾ -5½ inches long and is bilaterally symmetrical. Its base is large and rounded and its tip is pointed. The inside of the pod is shiny, silky, and yellow. These pods are erect and are usually arranged singly or in 2's. When the pods are ripened, they open along 1 side to release up to 450 compacted and overlapping seeds. Fruiting season is usually from September to early winter.

Seeds: The seeds are brown or black, about 1/5-1/4 inches in diameter, rounded, hairy, and have flattened margins. Each seed has a tuft of silky hairs at its tip. The American Goldfinch (*Carduelis tristis* L.) and other bird species may use these hairs to line their

nests. These seeds are wind-borne and may travel up to 100 feet. The seeds also have a high germination rate and may remain dormant in the soil for up to 3 years.

Root: The root system has a thick, fibrous, and deep taproot (which may reach over 10 feet) and horizontal, creeping white rhizomes. These rhizomes can also travel for great distances (up to 10 feet per year), set new roots, and sprout new plants. These extensive root systems help prevent soil erosion. These rhizomes do most of their growing from July to September.

Because of their deep and extensive root system, this is a very difficult plant to transplant. However, the fleshy rhizomes can be cut into pieces, having at least 1 bud, and can be used for propagating new plants. These pieces should be planted before late fall.

Habitat: Disturbed areas, dry areas, fields, meadows, orchards, pastures, prairies, riverbanks, roadsides, thickets, waste areas, and woods' edges. Common Milkweed is often found in cloned colonies.

Range: Eastern United States, except Florida, and Canada as far west as the Great Plains. It has been naturalized in Europe. It is the most common milkweed in the northeastern U.S.

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