

SWAMP BUTTERCUP

During the spring, we might wander through the wet areas and observe a plant with bright yellow flowers. This plant might be the Marsh Marigold (*Caltha palustris* L.) or it might be the Swamp Buttercup (*Ranunculus hispidus* Michaux).

The Swamp Buttercup is a member of the Order *Ranunculales*, the Suborder *Ranunculineae*, the Family *Ranunculaceae*, the Subfamily *Ranunculoideae*, and the Tribe *Ranunculeae*. This plant is part of an ancient flowering group, whose origin began sometime during the Cenozoic Era of the Phanerozoic Eon (up to 65 million years ago).

The generic name, *Ranunculus*, is Latin for “little frog”, because both this genus and frogs inhabit wet areas or possibly because the achene fruit resembled a frog. The specific epithet, *hispidus*, is Latin for “rough, bristly, or densely hairy”, because of the hairy stem. The Greek naturalist, Pliny the Elder, had originally named this genus *Ranunculus*.

A scientific synonym for this plant is *Ranunculus septentrionalis*, which is a now considered a variety or a subspecies of the *R. hispidus*. The specific epithet, *septentrionalis*, is Latin for “7 plow oxen”, referring to the 7 stars of the Big or Little Dipper, and is also an outdated English word for “northern”.

Swamp Buttercup has many other common names. Some of them are Bachelor Button, Blister Plant, Bristly Buttercup, Butter Daisy, Crazy Weed, Crowfoot, Gold Knot, Hispid Buttercup, Marsh Buttercup, Northern Swamp Buttercup, Pilewort, Rough Buttercup, Spearwort, Swamp Crowfoot, and Three-leaved Buttercup, Three-leaved Crowfoot, Wood Buttercup.

DESCRIPTION OF THE SWAMP BUTTERCUP

Perennial

Height: Swamp Buttercups are about 5-36 inches tall.

Stem: Their stems are either upright or arching. If the stem comes into contact with the ground, they may take root at their nodes. These stems are also light green, red-green, brown-green, hollow, weak, and smooth to hairy.

Leaves: Their leaves are not mottled. Upland game birds, such as Ruffed Grouse (*Bonasa umbellus* L.) and Wild Turkey (*Meleagris gallopavo* L.), may eat these leaves.

Basal: The basal leaves are larger and have longer petioles. They may be wider than long. These leaves are divided into 3 ovate or oblong leaflets, each about 2½ inches long.

Stem: The stem leaves are alternate, are palmately compound with 3 narrow and irregular short-stalked leaflets, and are cordate (heart-shaped). Their petioles are either short or absent. The upper stem leaves are strongly toothed.

Flowers: These flowers are radially symmetrical, about ½-inch wide, and are arranged solitarily and terminally upon the plant. Each flower has 5 yellow-green spreading sepals; 5 shiny, rounded, golden yellow, ½ inch-long, recurved petals that fade to white with age; and numerous bushy stamens and pistils. Flowering season is usually March to July.

The petals are shiny due to a waxy layer on top, a yellow layer below, and a 3rd layer of white cells. Only the outer 2/3 of the petal has this lower white layer.

The flowers are only open on sunny days. They close at night and on rainy days. They stay in bloom for about 4-9 days.

Bees (*Anthophila*), Butterflies (*Lepidoptera*), and Flies (*Diptera*) pollinate these flowers. The nectaries are located at a tiny flap at the inner base of the petal. These petals have 5 fine lines that guide these insects to the nectar.

Fruit: Their fruit is a small dry achene. These fruits are arranged in a globose cluster of 15-60 achenes. Each achene is smooth, flat, has an obovate or lanceolate body, a winged margin, and a long straight beak. Wild Turkeys, Snow Buntings (*Plectrophenox nivalis* L.), Eastern Cottontail Rabbits (*Sylvilagus floridanus* J. A. Allen), Eastern Chipmunks (*Tamias striatus* L.), Squirrels (*Sciuridae*), and Meadow Voles (*Microtus pennsylvanicus* Ord) all eat these seeds.

Roots: Their roots are thick and fibrous.

Habitat: Swamp Buttercups inhabit floodplains, stream banks, wet woods, wet thickets, wet meadows, swamps, and marshes. These flowers may cluster into small patches of up to 20 feet in diameter.

Range: Swamp Buttercups are found in much of the northeastern U.S. as far west as the Great Plains and in southeastern Canada.

Toxicity:

All parts of the Swamp Buttercup contain the innocuous glycoside, ranunculin. This glycoside is a precursor of the yellow oil, aglycone protoanemonin (or protoanemonine).

The amount of this glycoside varies during the growth of the plant. When the young plants are in bloom, this chemical is in its highest concentration.

When the plant is crushed, digested, or damaged, its enzymatic action produces the protoanemonin. This chemical is an acrid, corrosive irritant and vesicant that causes erythema (redness) and blistering of the skin, the eyes, the mouth, and the mucous membranes. However, when the plant dries, this chemical becomes harmless.

Beggars used to rub this plant upon their arms, legs, and feet to irritate them. They hoped that this would gain them more public sympathy and more money.

If ingested, this plant can cause serious gastrointestinal troubles, dizziness, fainting, and convulsions. If the pollen is inhaled, it can cause respiratory irritation.

This plant also poisons livestock. Consumption of this plant causes gastrointestinal troubles and blindness in some livestock. Cows consuming this plant often produced bitter, unpalatable milk with a red tinge. Although, this plant is toxic to livestock, it does not affect wildlife.

This plant also poisons the soil near the roots. These toxins kill any nearby nitrogen-fixing bacteria.

Medicinal uses:

Despite this plant's toxicity, it did have some medicinal uses. This plant was used for treating pain. The juice was used as a blistering agent. Pulverized root poultices were used for treating cuts, wounds, abscesses, boils, hemorrhoids, epistaxis (nosebleeds), and other external infections. The odors emitted from the crushed or the burning leaves were used for treating headaches. The juices from the leaves were used as a sedative or for treating sore throats and thrush. This plant used as an astringent, a diaphoretic, a diuretic, an antispasmodic, an analgesic, and a rubefacient.

Legends and Folklore:

Swamp Buttercup, as well as other members of the Genus *Ranunculus*, had some folklore associated with this plant. The name of *Ranunculus* may have also originated from a Libyan boy of that same name. This boy wore green and yellow silk and liked to sing. One day, some wood nymphs got tired of his singing and turned him into a flower.

Swamp Buttercup had other stories as well. Farmers sometimes rubbed the yellow flowers over the cows' udders or hung the flowers over their barn doors in hopes of producing golden yellow cream. If a person placed one of the yellow flowers under their smooth chin and it reflected the flower's glow, then that person loved butter. Some people believed that smelling the flower or placing it next to your neck under a full moon would drive you insane.

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