

JEWELWEED

Some of our native wildflowers can take on a variety of unusual forms and shapes. One genus of wildflowers that has these usual forms and shapes is the Jewelweed (*Impatiens* sp.). There are 2 species of Jewelweeds that are native to Ohio and her adjacent states: the Pale Jewelweed (*Impatiens pallida* Meerburgh) and the Spotted Jewelweed (*Impatiens capensis* Nuttall).

Jewelweed is a member of the Order *Ericales* and of the Balsam or Touch-Me-Not Family (*Balsaminaceae*). The generic name, *Impatiens*, is Latin for “impatient”, referring the fruit “popping” and scattering the seeds. The specific epithet, *pallida*, is Latin for “pallid or pale”. The specific epithet, *capensis*, is Latin for “of the Cape of Good Hope”, where this plant was erroneously thought to have originated. The common name, Jewelweed, either originated from its flowers, because of their resemblance to earrings, or from its leaves, which give a shiny appearance whenever dew or raindrops bead upon their surfaces.

Previous scientific synonyms for the Spotted Jewelweed were *Impatiens biflora* Walter and *Impatiens fulva* Nuttall. A previous synonym for the Pale Jewelweed was *Impatiens aurea* Muhlenberg. At different times and places, other common names for these 2 species were Balsam Flower, Balsam Weed, Brook Celandine, Celandine, Cowslip, Crowing Cock, Ear Jewel, Fireplant, Foxglove, Horns-of-Plenty, Jack-Jump-Up-and-Kiss-Me, Kicking Colt, Ladies’ Ear Drop, Ladies’ Earring, Ladies’ Pocket, Ladies’ Slipper, Lambs’ Quarters, Orange Jewelweed, Orange Touch-Me-Not, Pale Touch-Me-Not, Pocket Drop, Quick-in-the-Hand, Shining Grass, Silver Cap, Silverleaf, Silverweed, Slippers, Slipperweed, Snapdragon, Snapweed, Solentine, Speckled Jewels, Spotted Touch-Me-Not, Sullendine, Touch-Me-Not, Weather Cock, Wild Balsam, Wild Celandine, Wild Ladies’ Slipper, Yellow Jewelweed, and Yellow Touch-Me-Not.

DESCRIPTION OF THE JEWELWEED

Annual

Height: Their heights range from 2-10 feet. The Pale Jewelweeds are usually taller than the Spotted Jewelweeds.

Stem: The stems are smooth, hollow, succulent, translucent, reddish, ridged, upright, and multi-branched. These stems’ joints or nodes are darker and are enlarged. These stems are also lightweight and brittle, but are strong. When broken, these stems exude watery, mucilaginous juices.

Leaves: The leaves are simple, are alternate near the upper part of the plant, and may be opposite near the bottom part of the plant. Each leaf is about 2-6 inches long, about 1-4 inches wide, thin, succulent, light blue-green (especially on its underside), elliptic, oblong, and ovate. Their margins are wavy and have coarse, widely spaced, and blunt or rounded teeth. Their bases are round and their tips are blunt. These leaves also have long petioles. The leaves of the Pale Jewelweeds may be lighter and narrower than the leaves of the Spotted Jewelweeds.

If placed in water, the leaf takes on a shiny, sparkling, and silvery appearance. This is because both of the leaf surfaces hold a thin layer of air bubbles upon their microscopic hairs.

During the hot and dry summer weather, these leaves may wilt to conserve moisture. When wilted, these leaves do not face the sun.

Roots: Their roots are thin, weak, short, succulent, fibrous, reddish, and shallow.

Flowers: The flowers are arranged in a loose, spreading cluster of about 1-3 flowers per stalk (pedicel). Each pedicel is thin, about 1-1½ inches long, and connects the center of each flower to an upper leaf axial.

The flowers are pale yellow on the Pale Jewelweeds and are golden orange on the Spotted Jewelweeds. Both flowers have some red-brown spots, with the Spotted Jewelweeds having numerous spots and the Pale Jewelweeds having either light or no spots. These flowers are bilaterally symmetrical, are pendant-like, and are about ½-1½ inches long. The Pale Jewelweed flowers are broader than the Spotted Jewelweed flowers.

Depending upon the latitude, flowering season usually begins in May and lasts until the first frost. Spotted Jewelweeds usually bloom before the Pale Jewelweeds. A single flower may be in bloom for about 1-3 days. Pale Jewelweeds are usually in bloom about 1 day longer than the Spotted Jewelweeds.

Most of these flowers are chasmogamous (from *khasma*, which is Greek for “an opening”, and *gamous*, which is Greek for “union”). These flowers are open for pollination. Several species of insects and other animals pollinate these flowers. Ruby-throated Hummingbirds (*Archilochus colubris* L.), Spicebush Swallowtails (*Papilio troilus* L.), Bumblebees (*Bombus* sp.), and Honeybees (*Apis mellifera* L.) are a just some of the pollinating species.

The male and female parts do not develop at the same time. The male parts of the flower usually develop and die before the female parts of that flower develop. The male parts are usually alive longer than the female parts. When the male parts are alive, there is white pollen located at the top of the opening. When the female parts are alive, there is a small green tip located at the top of the opening. These sequential gender developmental differences help facilitate cross-pollination.

Its calyx consists of 3 unequal sepals. Depending upon the species, the largest sepal is either orange or yellow. It is a large, horizontal, backward-projecting, bell-, funnel-, or horn-shaped, and sharply spurred tubular sac that ends in a slender, short hooked, nectar-bearing spur. The spur on the orange flower is about ½ inches long and is J-shaped. The spur on the yellow flower is about ¼ inches long and is L-shaped. The other 2 sepals are smaller and are pale green.

Its corolla consists of 3 petals with 1 broadly rounded and hooded upper petal and 2 dangling and lobed lower petals. The lower petals are larger than the upper petals.

The rest of the flowers consist of 5 stamens and 1 pistil. The stamens are short and have united filaments. The pistil has a 5-celled ovary and a sessile stigma.

A single flower may produce up to 2½ ml. of nectar per day. This nectar contains about 40% sugar. Some insect species that cannot reach the nectar through the flower will chew holes in the spur to steal that nectar.

A few of these flowers are small, green, and cleistogamous (from *kleistos*, which is Greek for “closed”, and *gamous*). These flowers don't open but will self-pollinate. This

process assures that some seeds will be produced if cross-pollination by birds and insects fails. Unfortunately, self-pollination leads to inbreeding, which produces inferior plants.

Fruit: The fruits usually mature about 5 weeks after pollination. These fruits are slender, cylindrical, elliptical, oval capsules or pods. These pods are about ½ -1½ inches long and have 5 chambers.

When ripe, these pods are both swollen and fragile. When touched, these pods will “pop” or “explode”. During this process, the walls will split lengthwise into 5 spiraled and coiled valves. The seeds will be ejected for up to 3-8 feet in all directions. Because of their greater genetic diversity, the seeds from the chasmogamous flowers will usually eject farther than the seeds from the cleistogamous flowers.

Seeds: The seeds are ellipsoid, about ¼ inches long, are brown or green on the outside, and are light blue on the inside. These seeds are eaten by many species of birds, including the Ruffed Grouse (*Bonasa umbellus* L.) and the Bobwhite Quail (*Collinus virginianus* L.). These seeds are also cached by several species of small mammals, such as the Northern Short-tailed Shrew (*Blarina brevicauda* Say) and the White-footed Mouse (*Peromyscus leucopus* Rafinesque).

Habitat: Jewelweeds are usually found in wet, shady areas, such as floodplains or wetlands. They may also be found in disturbed areas. The Spotted Jewelweeds are sometimes found in open areas and the Pale Jewelweeds are often found in drier or in alkaline areas. Pale Jewelweeds are more shade tolerant than the Spotted Jewelweeds. Spotted Jewelweeds are more common than the Pale Jewelweeds.

Jewelweeds are aggressive plants. They can form dense colonies and can overrun their habitats. However, these dense colonies make ideal cover and nesting sites for Field Sparrows (*Spizella pusilla* Wilson).

Range: Jewelweeds are usually found in most of the eastern U.S. and in southern Canada, east of the Rocky Mountains and north of the Gulf Coast. Spotted Jewelweeds are also seen in the Pacific Northwest and in Florida.

Medicinal Uses of the Jewelweed

Jewelweeds have been used for medicinal purposes by both the Native Americans and by the early European settlers. The juices from the stems and leaves were used externally as a balm or as a wash for preventing the rash of or for relieving the itch of Poison Ivy (*Toxicodendron radicans* [L.] Kuntze). These juices were also used externally for the sting of American Stinging Nettles (*Urtica dioica gracilis* [Aiton] Selander), and for other skin rashes.

This plant contains lawsone (hennotannic acid), which is used as an antihistamine and as an anti-inflammatory. It also contains tannin, which is an astringent, and 2-methoxy-1, 4-naphthoquinone, a fungicide and an anti-inflammatory used for treating athlete's foot and ringworms.

A tea can be made from the leaves and the stems. These leaves and stems should be simmered in water until the water turns medium brown. This tea can either be bottled or can be frozen and are viable for up to 1 year. Although the tea was used as a cathartic, a diuretic, an emetic, and a febrifuge, it is not recommended to be taken internally.

The crushed leaves and stems can be used as a poultice. This poultice is used for treating acne, bruises, burns, cuts, eczema, headaches, hemorrhoids, hives, insect bites and stings, measles, poison ivy, sores, sprains, and warts.

Edible Uses of the Jewelweed

Jewelweeds also have edible uses. The shoots can be eaten in the early spring and the flowers, leaves, and stems can be eaten in the summer. The shoots should be gathered before they reach a height of 8 inches and should be boiled. When boiled, they should be boiled for 10-20 minutes in 2 changes of water. The leaves and stems can also be boiled and eaten as a potherb. The flowers can be eaten in salads or can be stir fried.

Do not eat this plant raw. This plant contains many harmful chemicals, including calcium oxalate crystals and selenium.

When eating this plant, eat in small doses and mix with other veggies. Excessive consumption could have a laxative effect.

The Jewelweed seeds are both edible and quite tasty. Unfortunately, they are very small. It is said they taste like Walnuts (*Juglans* sp.).

Jewelweeds are eaten by some species of wildlife, such as the Eastern Cottontail Rabbit (*Sylvilagus floridanus* J.A. Allen) and the White-tailed Deer (*Odocoileus virginianus* Zimmermann). However, Jewelweed can be toxic to livestock.

Other uses of the Jewelweed

Jewelweeds have other uses, too. The juice from the Jewelweed was also used as an orange or yellow dye for wool.

Jewelweeds are best harvested before the flowers bloom. However, they can be harvested until the first frost of the season. When the temperature falls below 40 degrees F., this plant wilts and dies. These dead plants will dry up very quickly.

Threats to the Jewelweed

Jewelweeds face many threats. Their biggest threat is habitat destruction by developers.

Invasive plants, such as the Garlic Mustard (*Alliaria petriolata* [M. Bieberstein] Cavara & Grande), are another cause of habitat destruction. These invasive species will quickly colonize an entire habitat and will crowd out the local native species.

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