

ELDERBERRY

During fruiting season, many people enjoy visiting the rural areas to pick wild fruits. One wild fruit that many people pick is the Elderberry (*Sambucus canadensis* L.).

Elderberry is a member of the Honeysuckle Family (*Caprifoliaceae*). Unlike some of the other Honeysuckles (*Lonicera* sp.), this plant is not an exotic invasive plant.

The generic name, *Sambucus*, is from the Greek word, *sambuce* (or *sambuca* or *sambuka*), which was the name of an ancient reed musical instrument. The specific epithet, *canadensis*, means “Canada”. Other common names for this plant are American Elder, American Elderberry, Black Elder, Black-berried Elder, Canada Elder, Common Elder, Common Elderberry, Elder, Elder-blow, Fritter Tree, Music Tree, Pipe Tree, Sweet Elder, and Sweet Elderberry.

Toxicity

The bark, buds, leaves, roots, shoots, stems, and unripe fruit are all toxic to both humans and livestock. Those plant parts contain cyanogenic glycosides (which can produce hydrocyanic or prussic acids, which is cyanide), and toxic alkaloids.

Moderate consumption of those plant parts may cause both severe stomach and intestinal distress. Excessive consumption may either lead to comas or even death.

Medicinal Uses

Despite this plant’s toxic properties, many parts of this plant were used as medicine. The Native Americans and some of the early European settlers had their own medicinal uses for this plant.

The Elderberry had many uses as an internal medicine. The stems and the roots were used as an emetic and as a purgative. The leaves were used as a carminative, a diaphoretic, a purgative, and a stimulant. Flower and inner bark teas were used as a diuretic, an emetic, and as a purgative. A root and bark decoction was used for treating fainting spells. A root bark decoction was used to loosen phlegm and to treat headaches. A flower infusion was used for treating respiratory infections and mild nervous disorders. A dried flower tea was used for treating common colds, colic, fevers, and insomnia. The flowers and the fruit were used as an infusion as an astringent, a diaphoretic, a diuretic, an expectorant, a purgative, and a sedative. The fruits were eaten to treat arthritis and gout. The fruits were used as an infusion for treating common colds, insomnia, and migraines. Elderberry fruit juice, mixed with honey, was used for treating coughs.

The Elderberry also had many uses as an external medicine. A leaf or an inner bark poultice was used for treating boils, bruises, burns, cuts, rashes, skin inflammations, sores, swellings, and headaches. A bark tea was used as a wash for treating eczema, inflammations, old ulcers, and skin eruption. An inner bark decoction was used for treating toothaches. The flowers and the leaves were used as an antiseptic wash for skin diseases and wounds. The flowers were also used in lotions. A fresh flower infusion was used for treating sore eyes.

The flowers and the fruits were both listed in the *U.S. Pharmacopoeia*. The fruits were listed 1820-1831 and the flowers were listed 1831-1905. The flowers were also listed in the *National Formulary* (1916-1947).

This plant contains some chemicals that are beneficial to human health. Some of them are the flavonoid glycosides quercitrin and rutin, triterpenes, linoleic and linolenic acids, palmitic acid, and valerianic acid.

Edible Uses

The Elderberry has some edible uses as well. Both its flowers and its berries can be made edible.

The ripe fruits can be made into jam, jelly, preserves, and pie fillings. Because they contain very little acid, these fruit are not very palatable. Before they could be eaten, these fruits have to be either dried (either in the Sun or in a warm oven) or cooked to remove their foul smell and their bad taste. When cooking with these fruits or making Elderberry juice, lots of sugar, citric or malic acid, and pectin should be added.

These fruits are highly nutritious. They contain sugar, vitamins A, B (niacin and thiamine), and C, beta carotene, calcium, iron, phosphorus, and potassium.

The fruits can be made into a refreshing cold beverage. These fruits (and flowers) can also be fermented and made into Elderberry wine.

Many animal species also like these fruits. They are eaten by several small mammal species and by over 40 bird species.

Although the flowers are considered to be mildly toxic, they are safer if picked at their peak, dried, and cooked. These flowers are sometimes mixed in batter and are made into fritters, pancakes, and waffles.

Other Uses

The stems (and twigs) of this plant have their uses, too. Their soft pith can be removed to make the stem hollow. These hollowed stems were once used as syringes or as spiles for tapping the sweet sap from the Maple (*Acer* sp.) trees.

Children have used these hollowed stems as toys, such as blowguns, popguns, peashooters, flutes, and whistles. Unfortunately, these hollowed stem toys are unsafe because some children have been poisoned after putting their mouths upon the toxic bark.

The leaves, flowers, and fruits had other uses besides food or medicine. Bruised or mashed leaves were used as insect or rodent repellants. The flowers contained aromatic oils that were used in cosmetics and perfumes. The fruits contain anthocyanic pigments and were used as dyes.

Pests

There are some diseases and insects that attack the Elderberry. One fungus that attacks this plant is the Brown Ear (*Auricularia auricula*), which is found upon the dead stems. The Elder Borer (*Desmocerus palliates*) and the Elder Stem Midge (*Neolasioptera sambuci*) both attack the stems. The Elder Flower Midge (*Youngomyia umbellicola*) attacks the flower buds and the Elder Bud Gall Gnat (*Asphondylia sambuci*) attacks the leaf buds. The Elder Shoot Borer (*Achatodes zaeae*) attacks the young shoots.

There are many other invertebrate species that will attack the Elderberry. Some of these species will dig out the pith and build their own nests within the newly hollowed stem.

DESCRIPTION OF THE ELDERBERRY

Shrub or small tree

Height: 3-16 feet. Although this plant is shade-tolerant, it grows much faster and taller in open sunlight.

Diameter: Its stem diameter may reach up to 6 inches.

Stem: The stem is smooth, soft, and woody.

Bark: The bark is light gray, green, or brown and has raised warty pores (lenticels). This bark is smooth and corky or is rough and fissured.

Crown: The crown is broad, rounded, and irregular.

Branches: The branches are stout, arched or upright, and spreading.

Twigs: The twigs are soft, light green, angled, stout, and are covered with warty lenticels. They have ringed nodes and large, soft, white piths. When broken, these twigs emit an unpleasant odor.

Buds: The buds are brown or green.

Roots: The roots system will usually spread outward and will usually sprout other plants. This will eventually create an entire thicketed colony.

Leaves: The leaves are deciduous, odd-pinnately compound, opposite, and are about 4-11 inches long. Each leaf has about 3-11 (usually 7) nearly sessile, elliptical, lanceolate, or ovate leaflets.

Each leaflet is about 1½-6 inches long and about ¼-2½ inches wide, has a broad base and a pointed tip, is shiny green above and dull green below, and has coarsely and sharply toothed margins.

Flowers: The flowers are white or cream-colored, fragrant, about 1/8-1/4 inches wide, and are radially symmetrical. Each flower has a 5-lobed tubular corolla, a 5-lobed calyx, 5 yellow anthers, and 1 pistil with a 3-celled ovary. These flowers are arranged in a terminal, upright, white stemmed, flat-topped or rounded, umbelled, dense, cymed, 2-10 inch wide cluster. These flowers are insect-pollinated. Flowering season is usually May to July.

Fruit: The fruit is a globose, 1/8-¼ inch diameter, purple to black, sweet and juicy, berry-like drupe. These drupes may sometimes be red, orange, yellow, or green. Each fruit has up to 5 single-seeded nutlets. These fruits are atop red stems and are arranged in a drooping cluster. Fruiting season is usually July to October.

Seeds: The seeds are yellow, ovoid with 1 flattened side, and are roughened with pits and wrinkles.

Habitat: This plant may be found in moist or damp soils. It is common along streams or other wetlands, woods' edges, fencerows, roadside ditches, and thickets. They are rarely seen in the deep woods.

Range: Its range covers most of the eastern U.S. and southeastern Canada.

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