



The
Socrates Project

Poisonous Plants in Virginia



Virginia Cooperative Extension
Virginia Tech • Virginia State University

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THE SOCRATES PROJECT – Poisonous Plants in Virginia

This publication is named the Socrates Project as a reminder of Socrates, the great philosopher of ancient Greece, who died during 399 BC after drinking an extract from Poison Hemlock, a plant widely found in Virginia today.

Tens of thousands of exposures to poisonous plants are reported annually to Poison Control Centers throughout the US, and hundreds of such incidents are reported each year to the Blue Ridge Poison Center in Virginia. These numbers may be shocking, but the actual cases of exposure to poisonous plants may be much higher due to the fact that many cases are never reported. Thus, the true picture of poisonous plant exposure is much greater than generally thought.

Asking even well-informed naturalist friends about poisonous plants in the wild demonstrated how little the public at large knows about poisonous plants in the environment. These concerns led to the creation of this document. Our research made it clear that there is a need for educational outreach on this issue, especially for children who might encounter these plants in nature. This publication provides basic information to children and their parents, grandparents, teachers, caretakers, and friends on some common plants found in Virginia that are poisonous to humans. The plants discussed in this document are limited to the Piedmont region of Virginia and includes wild, native and imported plants. The Socrates Project is intended to be a living publication, one that will be modified and expanded as required.

This publication was developed by volunteers of the Old Rag Chapter of the Virginia Master Naturalist Program. You may find more about this organization and this Chapter at www.oldragmasternaturalists.org and www.virginiamasternaturalists.org.

The following Master Naturalist volunteers have contributed to creating this document; Margaret Clifton, Adam Downing, Charles Fortuna, Victoria Fortuna, Alfred Goossens (Project Leader), Joyce Harman, Don Hearl, Roberta Jalbert, Elizabeth Johns, Cherri Lawson, Nora Rice, and William Rowe.

The peer review was conducted by:

- **Christopher P. Holstege**, MD, Chief, Division of Medical Toxicology, Professor, Emergency Medicine and Pediatrics, University of Virginia School of Medicine
- **Ron Hughes**, Lands Manager, Virginia Department of Game and Inland Fisheries
- **John G. Jelesko**, Associate Professor, Virginia Tech Department of Plant Pathology, Physiology, and Weed Science
- **Michelle D. Prysby**, Virginia Master Naturalist Program Director and Extension Associate, Virginia Tech Department of Forest Resources and Environmental Conservation

Layout and design work was conducted by Katie Jenkins Woodward, Unit Administrative Assistant for the Madison County office of Virginia Cooperative Extension.

If you have suggestions and comments about this publication please contact socratesormn@gmail.com



American False-hellebore

Latin name: *Veratrum viride*

Plant Description

American False-hellebore, (also commonly called White Hellebore, Green Hellebore, Indian Poke, etc.), grows 2 to 7 feet tall, with a solid green stem with ribbed leaves clasping the stem. Leaves are alternate or basal, the leaves themselves 4-14 inches long, 2-8 inches wide, elliptical and pointed, heavily ribbed with hairy undersides. The plant produces numerous flowers in July-August in a large branch 1-2 feet tall. The flowers of the American False-hellebore are yellowish green. Each flower of the American False-hellebore consists of six yellow-green balls. These plants are commonly mistaken for wild edibles including poke, marsh marigold, and edible leeks, known as ramps. All these plants grow in the same environment as American False-hellebore.

Where it may be found

American False-hellebore is a native plant to Virginia and grows in wet soils in low-lying meadows, stream banks, open forests, swamps, seeps, and bogs, frequent in the mountains rare in Central and Northern Piedmont, Coastal Plains and Northern Neck.

What part(s) of the plant are toxic

All parts of the plant are poisonous and contain toxic steroidal alkaloid compounds. The entire plant is highly toxic and potentially fatal when ingested by humans or by livestock. The plant should not be touched or handled as the toxic compounds can be absorbed through the skin.



Photo Credit: Richard Stromberg,
VMN Chapter

Contact with poisonous plants can be dangerous. For appropriate medical advice call the National Poison Control Center at **1-800-222-1222**



Common Symptoms

When American False-hellebore is ingested, it can cause nausea, vomiting, abdominal pain, dizziness, seizures, decreased blood pressure, slowed heart rate, heart arrhythmia, coma and, potentially death.

Notes

The plant was considered to have magical properties by many Native American tribes. Historically this plant was used in medicine into the 1960s. Its value was as an analgesic pain reliever and a heart sedative. It was even used in pharmaceutical drugs to slow heart rate and lower blood pressure. The dried and crushed plant has also been used as a sneezing powder or snuff.

Additional information may be obtained from the following sources:
https://en.wikipedia.org/wiki/Veratrum_viride

<https://plants.usda.gov/core/profile?symbol=vevi>

www.vaplantatlas.org



Photo Credit: Pat Temples,
VMN Old Rag Chapter



Photo Credit: Richard Stromberg,
VMN Shenandoah Chapter



Giant Hogweed

Latin name: *Heracleum mantegazzianum*

Plant Description

This plant is not native to the United States. It originates in South West Asia from where it was imported as an ornamental garden plant to Europe in the 19th century. Its first recording in the United States was in 1917 in an ornamental garden in New York.

It is a bi-annual plant but is known to grow for more years depending on the soils it grows in. The plant will die after it flowers. In the first year the plant will stay low at about 1 to 2 ft, and in the second year, or sometimes in the third year, it will develop fully and will reach 15 to 18 ft in height. The plants will then flower in June to August. The flowers are umbrella-shaped resembling flowers of Carrot or Parsley, but much larger at 1 to 2 ½ feet wide. The leaves have an alternate arrangement, are deeply lobed and can be up to 5 feet in diameter. The stems are hollow and can be 2 to 4 inches in diameter and have distinct purple – red blotches and have prominent white hair. The stems have a thick circle of hair at the base of the leaf stalk. The plant remains in the rosette stage until it develops sufficient root reserves to initiate flower formation.

Where it may be found

The plant grows in rich moist soils along roadsides, stream banks, vacant farmland and in areas that are not disturbed such as fence and tree lines.

Giant Hogweed is not reported to grow in Virginia, however it is officially reported to grow in Washington State, Oregon, some states in the Midwest, in New England, Pennsylvania, Maryland, DC and North Carolina.



Photo Credit: New York State Department of Environmental Conservation



Photo Credit: New York State Department of Environmental Conservation

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Which part(s) of the plant are toxic

This plant, although VERY DANGEROUS to humans, it is NOT poisonous the way we commonly think. The sap of this plant contains furocoumarin that in humans is strongly phototoxic.

Therefore this plant should not be touched at all!

This plant is on the Federal Noxious weed list of the USDA / APHIS

Common Symptoms

The juice of this plant can be strongly phototoxic resulting in serious skin reactions after exposure to sunlight.

First a skin rash may occur that may change to blisters that can look like burn wounds. A red - purple scarring may develop that may last years.

Exposure of the eyes to the plant's juice may lead to blindness.

Notes

There are various look alike plants in Virginia such as Cow parsnip, Poison Hemlock, Angelica and Wild parsnip particularly in its first year of growth of Giant Hogweed. These may look like Giant Hogweed, none however, reach the size of leaves, stems and flowers of Giant Hogweed nor do they have the red-purple blotches and white hair on the stem.

Additional information may be obtained from the following sources:

<http://www.dec.ny.gov/animals/39809.html>

www.dec.ny.gov/animals/72466.html

www.kingcounty.gov/environment/animal/sandplants/noxious-weeds/weed-identification/giant-hogweed.aspx

<http://www.invasivespeciesinfo.gov/plants/hogweed.shtml>



Day 3



Day 5

Photo Credit: Zamarra Kok, The Netherlands



Photo Credit: New York State Department of Environmental Conservation



Horse-nettle, Sand Briar

Latin name: *Solanum carolinense*

Solanum carolinense, the Carolina Horse-nettle, is not a true nettle, but a member of the Solanaceae, or nightshade family. It is a perennial herbaceous plant, native to the southeastern United States, that has spread widely throughout much of temperate North America.

Plant Description

Leaves are 2½ inches to 4½ inches long, lobed, and covered with fine hairs and spines. Stems are angled at the nodes, (the part of the stem of the plant from which leaves emerge), become woody with age, and also have prickles and star-shaped hairs. The leaves, when crushed, smell like potatoes. Horse nettle can grow to three feet tall, but is usually shorter.

Flowers have five petals and are usually white or purple with yellow centers, although there is a blue variant that resembles the tomato flower. Horse-nettle blooms throughout the summer from April to October.

Fruits are approximately ½ inch in diameter and resemble small tomatoes. The immature fruit is dark green with light green stripes, turning yellow and wrinkled as it matures. Each fruit contains approximately 60 seeds.

Where it may be found

Horse-nettle can be found throughout Virginia growing in pastures, roadsides, and in disturbed areas and waste ground. They prefer sun and can tolerate both wet and dry conditions.



Mature Plant



Full Bloom

Contact with poisonous plants can be dangerous. For appropriate medical advice call the National Poison Control Center at **1-800-222-1222**



Which part(s) of the plant are toxic

All parts of the plant are poisonous and contain the toxic chemical solanine. The majority of reports of human toxicity is the ingestion of the fruits.

Ingesting the fruit will irritate the stomach and intestines causing nausea, stomach cramps and diarrhea. Unripe berries are more toxic than ripe berries. Berries are more toxic than leaves, which in turn are more toxic than stems or roots. Plant toxicity is often stronger in autumn as the toxic chemicals (alkaloids) in the plant are concentrated.



Unripe Fruit

Common Symptoms

Common symptoms include nausea, vomiting, salivation, drowsiness, abdominal pain, diarrhea, weakness, and respiratory distress. Horse-nettle poisoning is rarely fatal; although, fatalities that do occur are more often found in children, and then only when larger quantities are eaten.

Additional information may be obtained from the following sources:

<https://plants.usda.gov>

<https://plants.ces.ncsu.edu/plants/all/solanum-carolinense/>

www.vaplantatlas.org



Ripe Fruit

Photo Credits:

Mature plant, Full Bloom, Unripe fruit:
Don Hearl VMN Old Rag Chapter

Ripe fruit: Jennifer Anderson, hosted by the
USDA-NRCS PLANTS Database



Jimson-weed

Latin name: *Datura stramonium*

Plant Description

An upright, branching plant up to 5-6 feet tall with coarse texture and foul-smelling foliage. Leaves are alternate, ovate, and irregularly toothed, 3-8 inches long, and green but sometimes purple-tinged. Stems are green to purple in color, with flowers ranging from white to lavender/light purple. Flowers appear July through October and are large and trumpet-shaped. The flowers are generally night-blooming, and each lasts only one day. Fruits are hard, spiny capsules with four chambers that contain an abundance of flat dark brown to black seeds, which disperse when the mature seed capsules split.



Photo Credit: Brenda Clements Jones, VMN Old Rag Chapter

Where it may be found

Jimson-weed is common, non-native throughout Virginia in pastures, fields, waste areas and in sand and gravel bars in and around streams. It is an upright, bushy annual plant that prefers rich soils but is found in widely varied conditions.

Which part(s) of the plant are toxic

All parts of the Jimson-weed are poisonous. Jimson-weed is at times abused by ingestion of seeds directly, by brewing tea from the plant parts, or by ingestion of the leaves often with marked adverse effects requires hospitalization. Jimson-weed has a history of use by shamans and medicine men given that it is hallucinogenic in small doses. The toxicity is caused by tropane alkaloids found throughout the plant. Jimson-weed is extremely toxic and should always be avoided.



Photo Credit: Pat Temples, VMN Old Rag Chapter

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Common symptoms

Effects of ingestion include headaches, hallucinations, delirium, agitation, large pupils, constipation, urinary retention, elevated pulse, hypertension, and fever.

Notes

The common name of Jimson-weed is a corruption of "Jamestown weed" which name came from a documented occurrence of mass poisoning of British soldiers in Jamestown in 1676. The weed was boiled for use in a salad that the soldiers ate. Over the course of the next ten days (according to reports), the soldiers exhibited the hallucinogenic effects of the plant and had to be confined to prevent them from hurting themselves.



Photo Credit: Brent Furbee, M.D. Indiana University

Additional information may be obtained from the following sources:

www.vaplantatlas.org

The Flora of Virginia



Mayapple or “Wild Mandrake”

Latin name: *Podophyllum peltatum*

Plant Description

Mayapple is an unusual and showy plant in the “Berberidaceae” family. One of the earliest plants to emerge in spring, and dies back by late summer. It typically has 2 large umbrella-like leaves that open before the flower shows but may have only one leaf when young. The leaves are deeply divided, 6-8 inches across. The Mayapple will grow 12-18 inches high. The flowers are 2”, white in most cases, but can be pinkish, rose or pale purple. Flowers are located under the large leaves, in the fork of the stem and may not be immediately apparent to the viewer. They have prominent yellow stamens and 6-9 waxy petals, producing a fruit, approximately 2” and roundish resembling a small apple,



Photo Credit: Richard Stromberg,
VMN Shenandoah Chapter

Where it may be found

Mayapple is native to Virginia and commonly found throughout forests in humus-rich slightly acidic soils. It will form dense colonies. Mayapple is generally found in moist areas but can tolerate dryer areas.

What part(s) of the plant are toxic

Leaves, roots, stems, seeds and unripe fruit are toxic when ingested and contain the toxin podophyllum.

Common Symptoms

Potential clinical effects when ingested include nausea, vomiting, diarrhea and abdominal pain followed by multi system organ failure, coma and potentially death days later.



Photo Credit: Brenda Clements Jones,
VMN Old Rag Chapter

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Notes

Native Americans ate the ripe fruit of Mayapple and it is still advocated by survivalists and foragers. However errors have been made when the fruit is not quite ripe, with resultant toxicity.

The plant is used for potential medicinal value such as the topical treatment of certain cancers, warts and historically for the treatment of a variety of ailments.

Additional information may be obtained from the following sources:

http://www.wildflower.org/plants/result.php?id_plant=POPE

<http://vnps.org/princewilliamwildflowersociety/botanizing-with-marion/mayapple-plant-profile/>

<http://www.petpoisonhelpline.com/poison/apple/>



Photo Credit: Brenda Clements Jones,
VMN Old Rag Chapter



Photo Credit: Brenda Clements Jones,
VMN Old Rag Chapter



Poison Hemlock

Latin name: *Conium maculatum*

Plant Description

Poison Hemlock is an herbaceous biennial flowering plant in the carrot family. It grows 6 to 10 feet in height with a smooth green stem often spotted or streaked with red or purple. The leaves are finely divided and lacy, up to 20 inches long by 16 inches wide. It has white flowers that grow in small erect clusters. Each flower develops into a green, deeply ridged fruit that contains several seeds. All parts of this plant have an unpleasant odor. While Poison Hemlock is usually biennial, in favorable locations it may be perennial.

Where it may be found

Poison Hemlock is an invasive non-native that is very common in Virginia and across the United States. It grows along fence lines, ditches, wet roadsides and meadows.

What part(s) of the plant are toxic

All parts of Poison Hemlock are extremely poisonous, emit a foul odor and contain the toxin coniine what acts exactly like nicotine. The juice can cause severe skin irritation. Often, internal poisoning occurs after the victim confuses the Hemlock root with Wild Parsnips, the Hemlock leaves with Parsley, or the Hemlock seed with Anise. Whistles made from the hollow stems of Poison Hemlock have been reported to be associated with toxicity and death in children. This is the plant that was used to kill Socrates The Great Philosopher of Ancient Greece! It was a common form of execution during 399 BC.



Photo Credit: C.P. Holstege, M.D.,
University of Virginia



Photo Credit: Brent Furbee,
M.D., Indiana University

Contact with poisonous plants can be dangerous. For appropriate medical advice call the National Poison Control Center at **1-800-222-1222**



Common symptoms

Symptoms following ingestion include nausea, vomiting, diarrhea, abdominal pain, coughing, wheezing, tearing, salivation, sweating, difficulty seeing, weakness, dizziness, trembling, seizures, paralysis, pulse change (rapid and slow), coma, and potentially death.

Notes

This plant is on the Federal Noxious Weed list of the USDA/AHPHIS and has been identified all over Virginia. Poison Hemlock can be confused with carrots, Queen Anne's Lace and other members of the Parsley family. Some tips that will help with identification are: The roots of Poison Hemlock smell disgusting while Queen Anne's Lace smells just like a carrot. In addition, the stem of the wild carrot is hairy and green, while the stem of Poison Hemlock is smooth with purple blotches. The flowers on both plants are in white clusters and grouped in umbels (like an umbrella), but on Poison Hemlock the flowers are completely white and the flower head itself is rounded. Queen Anne's Lace flower heads are flat with a dark blackish spot in the center of each flower head. Roots of Poison Hemlock may easily be mistaken for wild parsnips.

Additional information may be obtained from the following sources:

www.vaplantatlas.org

<https://plants.usda.gov/core/profile?symbol=COMA>



Photo Credit: Brent Furbee, M.D., Indiana University



Photo Credit: Brent Furbee, M.D., Indiana University



Poison Ivy

Latin name: *Toxicodendron radicans*

Plant Description

Poison ivy can grow as a single small plant, a mass of ground cover, a small bush or a climbing vine reaching many feet up a tree or building. Leaves are alternate and compound with three egg-shaped leaflets (leaves of three) with leaf edges that vary from smooth to sparsely toothed. In mature specimens, poison ivy can appear as hairy ropes up to 4+ inches in diameter attached to and climbing trees and other vines. Poison Ivy produces clusters of small white flowers in the spring that in late summer yield small white berries loved by birds.

Where it may be found

Poison ivy is native to Virginia and grows on a wide variety of sites. It can be found along forest edges in partial shade and adequate soil moisture, but also grows in full shade, full sun and on dry sites. In other words, it's not very picky!

What part(s) of the plant are toxic

Every part of the plant contains urushiol, a toxic oil. Leaves/leaflets, roots, stems/vines and berries and all parts are toxic year-round, even during the winter. Burning this plant is also dangerous as the smoke may cause eye and lung irritation.

Common Symptoms

Within a few hours of contact, those who are sensitive to the urushiol toxin may notice parts of their skin itching and burning. A rash is likely to follow with redness, swelling and blisters.



Photo Credit: Richard Stromberg,
VMN Shenandoah Chapter



Photo Credit: Brenda Clements Jones,
VMN Old Rag Chapter

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Notes

Poison ivy is a native plant and very valuable to wildlife. It even has a history of ornamental use for its showy white flowers and bright red fall color.

In Piedmont of Virginia, poison ivy is sometimes mistakenly called poison oak (*Toxicodendron pubescens*) which is infrequent in Virginia, limited mostly to eastern VA on dry, sandy sites.

“Leaves of Three, Let it Be” is a helpful way to remember this plant and not to touch it. In actuality the three “leaves” are leaflets of the compound leaf, but that doesn’t rhyme well.

Additional information may be obtained from the following sources:

<http://dendro.cnre.vt.edu/dendrology/syllabus/factsheet.cfm?ID=128>

<https://www.plants.usda.gov/core/profile?symbol=TORA2>

<http://vaplantatlas.org>

<https://www.facebook.com/theitchyproject>



Photo Credit: Brenda Clements Jones, VMN
Old Rag Chapter



Photo Credit: Brenda Clements Jones, VMN Old Rag Chapter



Photo Credit: Richard Stromberg, VMN Shenandoah Chapter

Pokeweed, Pokesalad

Latin name: *Phytolacca americana*



Plant Description

Pokeweed is a large perennial plant 3 to 10 feet tall rising from a large rootstock. The crown of the root is where the annual growth begins. Stems are thick, erect and branched, often reddish or purplish in color. Leaves are simple, oval in shape with smooth edges and are alternate in arrangement on the stem. Flowers are greenish white, with petal-like sepals. Bloom period is from June through September. Berries that appear in drooping clusters are green when immature and turn a deep purple to black at maturity. Approximately nine seeds are contained in each berry.



Photo Credit: Pat Temples, VMN Old Rag Chapter

Where it may be found

Pokeweed is found throughout Virginia. Pokeweed grows in fields, along fencerows, roadsides, crop fields, and forest edges.

What part(s) of the plant are toxic

All part of the plant are poisonous and contain saponin glycosides which causes serious poisoning. Contact of plant parts with bare skin should be avoided since the juice of pokeweed can be absorbed through the skin.

Common Symptoms

Symptoms of ingestion include nausea, severe vomiting, abdominal cramps, diarrhea with a burning sensation in the mouth. There can be visual impairment, weakened respiration and pulse. More serious illness can develop from subsequent dehydration. Convulsions and death may follow. Plant juice may cause irritation of the



Photo Credit: Brenda Clements Jones, VMN Old Rag Chapter

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Notes

The name pokeweed is derived from “puccoon”, an Algonquin tribe name, meaning “plant with dye.” Song birds and mourning doves consume the berries and spread the seeds. Early spring shoots are eaten in the south. The spring greens are cooked in two changes of water to lessen the toxins. The berries were used for a natural dye, ink and food color. However these old practices to use parts of the Pokeweed plant as a food ingredients is seriously questioned because of the severe poisoning that has often resulted from such practices.

Additional information may be obtained from the following sources:

www.plants.ces.ncsu.edu/plants/all/phytolaccaAmericana

www.plants.usda.gov/core/profile?symbol=PHAM4

http://www.oardc.ohio-state.edu/weedguide/single_weed.php?id=112

www.vaplantatlas.org



Photo Credit: Brenda Clements Jones, VMN Old Rag Chapter



Photo Credit: Don Hearl, VMN Old Rag Chapter

Virginia-creeper

Latin name: *Parthenocissus quinquefolia*



Plant Description

A woody, deciduous, vigorous vine with five elliptical, palmately compound toothed leaves that are found alternately on the vine, generally 4 to 8 inches across. The mature leaves are dark green in color with a glaucous underside. The vine climbs using tendrils with adhesive tips and may grow prostrate on the ground or vertical on trees or other plants and structures. The vines may grow quite long, 50-100 feet. Flowers appear in the late Spring to early Summer, but the blossoms are small, green, and inconspicuous. Berries are dark purple to black and are generally noticeable only after the leaves drop. Stems are round and light brown with a white pith.



Photo Credit: Brenda Clements Jones,
VMN Old Rag Chapter

Where it may be found

Virginia-creeper is a common native plant which grows abundantly throughout Virginia in forest, forest edges and open land, in wet and dry soils, and in rock crevices. It is very tolerant of a variety of environmental conditions, although it is less common at higher elevations.

Which part(s) of the plant are toxic

All parts of the plant are toxic to humans and other mammals. Both the berries and leaves contain a significant concentration of calcium oxalate crystals (raphides) which damage soft tissue and in some people, irritate skin.



Photo Credit: Brenda Clements Jones,
VMN Old Rag Chapter

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Common Symptoms

Clinical effects of ingestion include intense mouth pain, nausea, diarrhea, vomiting and abdominal pain. Swelling of the mouth and throat may cause airway closure and asphyxiation.

Notes

Virginia-creeper is a hardy, attractive, native plant providing landscape interest in three seasons: in Spring, when leaves emerge red; in Summer, when leaves turn a lustrous dark green; and especially in Fall when foliage turns a brilliant red. Virginia-creeper may be a preferred plant for climbing architectural surfaces because it climbs using adhesive tips, rather than by rootlets like other vines that can damage building surfaces. The berries are a highly prized food for birds, especially species resident in winter. It is also the host plant to a number of important sphinx moths, including the beautiful Virginia-creeper sphinx moth.

Additional information may be obtained from the following sources:

www.wildflower.org/plants/result.php?id_plant=PAQU2

vaplantatlas.org

<http://dendro.cnre.vt.edu/dendrology/factsheets.cfm>



Photo Credit: Brenda Clements Jones,
VMN Old Rag Chapter



Photo Credit: Brenda Clements Jones,
VMN Old Rag Chapter



Water-hemlock

Latin name: *Cicuta maculata*

Plant Description

Water-hemlock, also known as Spotted Water-hemlock or Spotted cowbane, is an attractive perennial herbaceous plant. It is said to be among the most toxic plant growing in Virginia. Leaves are pinnately compound. Stem is tinged, mottled, or streaked with purple, and is stout and smooth. This plant can grow from two to nine feet in height. Flowers are umbrella-like clusters that grow two to six inches wide. Individual flowers are tiny and white. Water hemlock blooms in summer and fall, June through September. At higher elevations, flowers appear June or July.

Where it may be found

Water-hemlock is a common plant native throughout Virginia. It can be found near water, stream banks, ponds, swamps and wet seepage areas of meadows and pastures.

What part(s) of the plant are toxic

Water-hemlock is considered one of North America's most toxic plants, being highly poisonous to humans. All parts of the plant are poisonous, though the roots are particularly poisonous. Cicutoxin, a clear brownish resin, is the lethal toxin found in this plant.

Common Symptoms

Reported symptoms include severe stomach pain, pupil dilation, nausea, vomiting, diarrhea, difficulty breathing, violent convulsions, and frothing of the mouth. Grand mal seizures, not responsive to medication can begin soon after ingestion. Death can ensue within 15 minutes to eight hours after ingestion. Poisoned persons can asphyxiate on their own vomit and shred their tongue with their teeth since they cannot open their jaws.



Photo Credit: Dee Dee Lyon, VMN Old Rag Chapter



Photo Credit: Dee Dee Lyon, VMN Old Rag Chapter

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Notes

Some Native American Tribes are said to have used Water Hemlock to poison tips of arrows for hunting purposes and also to commit suicide. To make Water-hemlock even more dangerous is the fact that there are several poisonous “look alike” species, such as Poison Hemlock and Wild Parsnip as well as non-poisonous plants including Carrot, Parsley and Parsnips

Additional information may be obtained from the following sources:

http://www.illinoiswildflowers.info/wetland/plants/water_hemlock.htm

<https://www.plants.usda.gov/core/profile?symbol=CIMA2>

www.vaplantatlas.org



Photo Credit: Dee Dee Lyon, VMN Old Rag Chapter

Wild Parsnip

Latin name: *Pastinaca sativa*



Plant Description

Wild Parsnip is a biannual plant. In its first growing season, the plant has a rosette of leaves that are alternate, compound and branched, with jagged teeth. Leaflets are yellowish-green, shiny, oblong, coarsely-toothed, and diamond-shaped. In its second season the plant produces a flowering stem. Stems can reach a height of 4 ft., they are erect, thick, hollow, ribbed, and woody. Stems are topped by a flat or curved cluster of small yellow flowers, *umbels*, consisting of a number of short flower stalks, spreading from a common point, somewhat like umbrella ribs. Flowering occurs from May to June but the flowers appear only in the second season. Seeds are pale brown, flat, and winged. The taproot is fleshy or fibrous. Plants die after producing seeds.

Where it may be found

Occurs in sunny areas with varying degrees of soil moisture, with a preference for dry soils. Commonly found along roadsides, pastures, and in abandoned fields. Wild Parsnip is non-native common in the mountains, infrequent in the Piedmont, and rare in the Coastal Plain.

What part(s) of the plant are toxic

Though the root of the parsnip is edible, the leaves and stems have a toxic sap that is photosensitive. This means that handling the stems and foliage can cause a skin rash if the skin is exposed to sunlight after handling.



Photo Credit: John Cardina, The Ohio State University, Bugwood.org



Photo Credit: Leslie J. Mehrhoff, University of Connecticut, Bugwood.org

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The skin rash is similar to the rash caused by poison ivy. Wear gloves, long sleeves, and long pants for protection when handling this plant. The leaves and the stems of this plant, although very dangerous to humans, are not poisonous the way we commonly accept that plants or chemicals can be poisonous to humans. The sap of the stems and the leaves of this plant contain phototoxic chemicals that when exposed to the skin can create serious skin reactions. This combined with the fact that the roots are regarded as edible people should be very careful while handling this plant!

Common Symptoms

Symptoms of skin that has been in contact with the plant include redness, burning, and blisters. The reported symptoms have mostly been mild to moderate. However, afflicted skin areas can remain discolored for up to two years. The symptoms will be more severe when exposed to the plant's sap on a sunny day.

Notes

Poison Hemlock and Water-hemlock are close in appearance and are often confused with Wild Parsnip. Poison Hemlock has a mouse-like odor while Wild Parsnip has a parsnip-like odor. Water-hemlock prefers wet habitats whereas Wild Parsnip prefers dry soils.

Wild Parsnip is the wild state of the cultivated Parsnip and in the first year of Wild Parsnip its taproot can be eaten. However, because of the "look alike" issues with Wild Parsnip, Poison Hemlock and Water-hemlock one should extremely cautious eating any parts of any these plants.

Additional information may be obtained from the following sources:

<http://vaplantatlas.org/index.php?do=plant&plant=1937>

<http://www.invasiveplantatlas.org/subject.html?sub=6147>

https://www.na.fs.fed.us/fhp/invasive_plants/weeds/wild-parSNIP.pdf

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Photo Credit: Chris Evans,
University of Illinois, Bugwood.org.



Photo Credit: Brent Furbee, M.D., Indiana
University

Glossary

Alternate Leaf	Occurring singly at each node, as leaves on a stem; placed regularly between, rather than over, other organs, as stamens alternate with petals.
Basal Leaf	Positioned at or arising from the base, as leaves from the base of a stem.
Biennial	A plant that lives two years, usually forming a basal rosette of leaves the first year and flowering and fruiting the second year, of two years' duration.
Calcium oxalate	Insoluble crystals in Virginia creeper and other plants that cause intense pain to the mouth and the abdomen when chewed or swallowed.
Cicutoxin	A poisonous compound found in various plants, such as the highly toxic Water-hemlock
Compound Leaf	A leaf divided into two or more distinct leaflets.
Coniine	A poisonous compound found in Poison Hemlock.
Crown, Root	The persistent base of a fern or herbaceous perennial; the top part of a tree; a corona. That portion of the plant axis lacking nodes and leaves and usually found below ground.
Deciduous	Falling off, as leaves from a tree; not evergreen; not persistent
Divided	Cut or lobed into distinct broader parts, as a leaf that is cut to the midrib or base, forming leaflets.
Elliptic Leaf	Of a flat body, having approximately the shape of an eclipse or a narrow oval.
Furocoumarin	A chemical compound present in a variety of plants including Giant Hogweed. It can be very dangerous to humans because it is phototoxic. (See phototoxic)
Glaucous	Of a surface, having a bloom.
Grand mal seizure	This is a medical emergency! A serious type of seizure that causes the muscles of the body, arms and legs to violently contract and shake.
Herbaceous	Having the characters of an herb; leaflike in color and texture; not woody
Leaflet	A single division of a compound leaf.
Lobed Leaf	A rounded division or segment of an organ, too large to be called a tooth or an auricle, but with the adjacent sinuses usually extending less than halfway to the base or midline.
Ovate Leaf	Of a leaf or other flat object, shaped like a long section of a hen's egg, with the larger end toward the base.
Palmate Leaf	Of a leaf, lobed, veined, or divided from a common point, as the fingers of a hand.
Perennial	Of a plant, living more than two years.

Petal	A segment or member of a corolla usually colored or white and serving to attract pollinators.
Phototoxic	When specific chemicals present in some plants come in contact with the skin, and the skin is subsequently exposed to sunlight, skin irritation can result that can vary from a rash to serious blisters. Exposure of the plant juice containing phototoxic chemicals to the eye, such as Giant Hogweed, may lead to blindness.
Podophyllum	A poisonous chemical compound found in Mayapple
Raphides	Small needle shaped crystals of calcium oxalate (see calcium oxalate) that are packed in bundles within cells causing extreme pain to the mouth and abdomen when chewed or swallowed.
Rosette Stage	A dense, radiating cluster of leaves or other organs arranged in a circle or disk, often in a basal position.
Sap	The juice of a plant; the fluids circulated throughout the plant.
Saponin glycosides	Chemical compounds that are present in Pokeweed causing serious poisoning to humans.
Sepal	A segment of an organ that is cleft or divided.
Simple Leaf	Undivided, as a leaf blade that is not separated into leaflets (though it may be deeply lobed or cleft); single, as a pistil composed of only one carpel; unbranched, as a stem or hair.
Solanine alkaloid	A poisonous chemical compound found in plants such as the Nightshade family.
Stamen	The male reproductive organ of a flower, consisting of an anther and a filament; the angiosperm microsporophyll.
Steroid alkaloid	A combination of two chemical compounds found in specific plants including potatoes and tomatoes. In certain plants, such as the American False Hellebore, these compounds are highly poisonous.
Taproot	The main root axis from which smaller root branches arise; a root system with a main root axis and smaller branches, as in most dicots.
Tendrils	A slender clasping or twining cauline or foliar outgrowth of a plant used to grasp support for climbing.
Toothed Leaf	Toothed along the margin, with teeth directed outward rather than forward.
Toxin	A poisonous substance
Umbel	A flat-topped or convex inflorescence whose pedicels arise more or less from a common point, like the struts of an umbrella; a highly condensed raceme.
Urushiol	A chemical compound with delayed allergic properties found in various plants including Poison Ivy

Vertigo	A feeling that you are dizzy and the whole world is spinning around you, even when someone is perfectly still.
Wing (seeds)	Any flat structure emerging from the side or summit of an organ; one of the two lateral petals of a papilionaceous corolla.

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