A FEW POISONOUS PLANTS

EVERY fall the staff at the Arboretum is besieged with questions about poisonous plants. The questions are answered to the best of our ability but they invariably come down to questions of identification. Physicians are the ones to consult for treatment, but frequently they find it necessary to have someone else identify the plants that cause the trouble in the first place. In the book, Poisonous Plants of the United States and Canada, by John M. Kingsbury, over 700 plants that have been known to be poisonous to man or animals are mentioned. Most gardeners know a few poisonous plants. In this issue of Arnoldia some of the more common ones are listed.

Usually, one does not go to the garden and eat miscellaneous foliage. Even youngsters are more attracted to bright colored fruits than foliage of plants. In the reference works, the term "poisonous" usually means poisonous to man or animals, and many more animals than humans have been poisoned by eating the foliage of plants. One of the prime rules is to avoid any white fruits, both in the northern part of the country and in the Tropics.

The Federal Government has set up a "Pesticide Information Center" in each state, usually in the land-grant college. In Massachusetts it is located at the University of Massachusetts, Amherst, with Prof. Ellsworth H. Wheeler, the Project Leader. Also, Poison Centers have been established about the country, mostly in hospitals where medical aid can be given and where advice on treatment for poisoned individuals can be given to the medical profession and the layman alike. These have been sponsored by a division of the Federal Public Health Service. These centers are the places to call for advice in cases of possible poisoning from insecticides or plants. In Massachusetts there are seven Poison Centers:

**BOSTON:**
- Poison Information Center
  - (Beacon 2-2180)
- Children's Medical Center
  - 300 Longwood Avenue

**NEW BEDFORD:**
- Poison Control Center
  - (WYman 6-6711, Ext. 275)
- St. Luke's Hospital
  - 101 Page Street
In the following list are some plants that might be found in or near gardens in this area. The plants under discussion have been divided into four groups, those growing in the garden or woods with poisonous fruits, foliage or roots, and also those with poisonous parts commonly used as house plants in the northern United States. Certainly all the poisonous plants are not included. Nor does the absence of a plant from the list mean that its fruit or foliage is not poisonous. Those mentioned here have been known to be poisonous to humans. People with small children, most of whom are experimentally minded, would do well to note these plants and keep small children from them.

**PLANTS IN GARDEN OR WOODS WITH POISONOUS FRUITS**

**Actea pachypoda** 1 1/2’ Zone 3 White Baneberry or Cohosh

An herbaceous perennial native from southeastern Canada to Georgia and Oklahoma, with compound leaves; flowers in small white terminal clusters during spring and erect clusters of white berries on red stalks in summer and fall. Frequently seen in the woods in this area. The fruits of this are extremely poisonous. It is often listed incorrectly as *Actea alba*. The red fruits of *Actea rubra* are also poisonous.

**Daphne mezereum** 3’ Zone 4 February Daphne

A low shrub, native to Europe but common in American gardens and occasionally naturalized in this area. The small, lilac to rosy-pink flowers are very fragrant, appearing in early April before the leaves, and the scarlet red berries are borne up and down the stem in June. It is the berries which are most poisonous.

**Euonymus europaeus** 21’ Zone 3 Spindle Tree

This species and probably others in this genus have proved poisonous in Europe, but no cases have apparently been reported in North America. The leaves are
PLATE XX

opposite and the red fruit capsules split open and reveal bright fleshy orange covered seeds inside. This and other species of Euonymus are popular garden plants but it would be wise to prevent children from eating the fruits which start to color in early fall.

**Hedera helix**  
Vine  
Zone 5  
English Ivy

A common house and garden plant but considered poisonous since the days of Pliny. However, it is chiefly the berries that would attract children, blue-black in umbels but formed in the very late fall on mature vines with mature foliage (see Plate XXI). The berries are about \( \frac{1}{4} \) inch in diameter. Apparently no cases of poisoning have been reported in America but they have been in Europe.

**Laburnum anagyroides**  
30'  
Zone 5  
Golden-chain

This has been considered the second most poisonous tree in Great Britain (the first is *Taxus baccata*, the English Yew). The Golden-chain is easily recognized for its alternate compound leaves with 3 leaflets and its yellow pea-like flowers borne in pendulous clusters about 6-18 inches long in late May somewhat similar to those of Wisteria. The fruit is a pod containing up to 8 seeds apparent during summer and fall and it is these that are poisonous. Other species probably have poisonous properties.

**Menispermum canadense**  
Vine  
Zone 4  
Common Moonseed

Not very common but this is a twining vine native to the eastern United States and a vicious weed wherever it gets started in a garden. The leaves are somewhat like those of English Ivy, and the black berries are \( \frac{1}{4} \) inch across looking somewhat like small grapes in the fall. The fruits can be severely poisonous.

**Phytolacca americana**  
4-12'  
Zone 4  
Pokeweed

This common American perennial crops up as a weed at some time or other in almost every garden in the northeastern United States. It is herbaceous, dying down to the ground in the fall. The root is the most toxic part. The black berries are attractive and have been used for making pies, but on the other hand when eaten raw by humans they may have been responsible for severe poisoning. The young shoots have been cooked and eaten like asparagus, especially if the cooking water is changed. The leaves are alternate, entire and ovate; the small white or purplish flowers are borne in terminal racemes and are bisexual. The fruit is a 10-seeded, juicy, purple berry. All considered, it would be advisable to prevent children from eating the fruits.

**Podophyllum peltatum**  
1 1/2'  
Zone 3  
Mayapple, Mandrake

Native in the woods from Quebec to Florida and Texas, this is often an interesting wild flower planted in the wild garden. It has large peltate, palmately lobed leaves, solitary waxy white flowers 2 inches wide in spring, and yellowish,
PLATE XXI

fleshy, berry-like fruits 2 inches wide. The root is the chief poisonous part, but if several of the fruits are eaten they can cause diarrhea.

**Ricinus communis** 15' Annual Castor-bean

Often called the Castor-oil Plant, this is native to the Tropics where it can grow into a tree 40 feet tall having palmate leaves with 5-11 lobes as much as 3 feet wide. The monoecious flowers are small but are borne in 2-foot panicles and the fruit is one inch long covered with soft brown spines. The seed, looking something like a bean, is deadly poisonous to humans. Often planted as an annual in New England gardens for the tropical effect of its foliage.

**Robinia pseudoacacia** 75' Zone 3 Black Locust

A common tree native to the eastern United States with alternate compound leaves, entire leaflets opposite and in 3-10 pairs; clusters of white pea-like flowers appear in June and fruits are dry pods. Horses, cattle and sheep have been poisoned from eating the fruits, suckers or bark and children have been poisoned by eating the seeds or inner bark.

**Solanum dulcamara** Vine Zone 4 Deadly Nightshade

This is a weedy vine apparently widely distributed by birds, with alternate, entire leaves sometimes lobed at the base, 1 1/2-4 inches long; the flowers are violet colored and star-like, produced in clusters; the fruits are fleshy scarlet berries about 1/3 inch wide. Flowers are borne from June-August; fruit from August-October. Native to Europe and North Africa, it is now widely naturalized in the eastern United States. Cattle, horses and sheep have been killed from eating the vegetative parts and children have definitely been poisoned by eating the bright red fruits. It should always be thoroughly eradicated from the garden wherever it appears.

**Rhus radicans** Vine Zone 3 Poison Ivy

Sometimes termed *Toxicodendron radicans*, or *Rhus toxicodendron*, this is the Poison Ivy so widely distributed in the Northeast, and leaves, fruit, stems and even smoke from the burning twigs are extremely toxic causing a serious skin rash to many people.

The compound leaves have 3 leaflets up to 10 inches long with the margins either entire, toothed or lobed and glossy or dull on the upper surface. The small flowers are greenish white in the early spring and the berry-like, white, waxy fruits persist into the winter and are borne in erect axillary clusters. Native from British Columbia to Nova Scotia, south to Florida, Texas and Mexico, it climbs by attaching itself to tree trunks, walls, etc. or rambles over the ground in a dense mass up to 1 1/2 feet high. It should be given a wide berth by everyone, and certainly children should be warned against collecting the berries.
PLATE XXII

Rhus vernix  

Sometimes termed *Toxicodendron vernix* and native from Quebec to Florida, this is a ranging shrub with alternate, pinnately compound leaves, bearing 7-18 leaflets, the leaf margins entire. The small greenish flowers are in pendulous clusters nearly 8 inches long and the white fruits are small. Usually found in swamps, it should be given a wide berth at all times because contact with any of the parts causes a serious skin rash to many people.

**Taxus spp.**  

The English Yew (*Taxus baccata*) has been noted as the most poisonous plant in Great Britain. Other Yew species are probably just as poisonous and *T. cuspidata*, the Japanese Yew, and *T. canadensis*, the Canada Yew, are widely planted in New England gardens. The sexes are separate and the pistillate plants are the ones which bear the bright scarlet fruit in the fall. The red flesh covers a hard seed; and although the flesh is not poisonous, the seed is extremely poisonous. Chewing seeds has proven fatal to animals and humans. The foliage is even more toxic and of course it is this that proves so poisonous to cattle, sheep and horses.

There are probably more problems with children eating these berries in this area than any other, except possibly Pokeweed. Chewing these seeds and then swallowing can cause serious poisoning.

**Wisteria spp.**  

Wisterias are twining vines widely planted for their colorful, pendulous clusters of pea-like flowers in late May and June. The pods are 4-6 inches long and flat, containing several seeds and it is these which have been known to be poisonous to children when eaten. They ripen in the late summer and early fall.

**PLANTS IN GARDEN OR WOODS WITH POISONOUS FOLIAGE**

As noted previously, few humans go to the garden or woods and nibble quantities of foliage indiscriminately. The plants listed here are poisonous mostly to animals, but may prove poisonous to humans also if the foliage is eaten in any quantity.

**Aconitum spp.**  

Several species are common garden plants and the records of poisoning in this country are not common, but it should be remembered that these plants are potentially poisonous.

**Cicuta maculata**  

The leaves of this perennial aromatic herb, native from New Brunswick to Florida, are 2-3 times pinnate, 5 inches long and the small white flowers are
borne in terminal umbels. It is sometimes used in the wild or bog garden, and is usually found in marshy places. It has caused a great deal of livestock losses in the United States. Roots and seeds are the most poisonous parts. Children are sometimes severely poisoned by eating the root.

**Conium maculatum** 4-8' Biennial Poison Hemlock

With large dissected leaves sometimes 4-5 times (opposite) compound, with a parsnip-like root. Small white flowers are borne in umbels and it resembles the Wild Carrot or Queen Ann's Lace (*Daucus carota*), but the stem and leaves of the latter are distinctly hairy. Native to Europe, it has become naturalized in many areas of the United States. Humans and all types of livestock are susceptible to poisoning by this plant, and its poisonous properties have been known since Greek and Roman times. The foliage is sometimes mistaken for parsley and the seed for anise.

**Datura stramonium** 1-5' Annual Jimsonweed, Angel's Trumpet

Native to the Tropics but a naturalized garden weed in the northeastern United States, this has ovate leaves 8 inches long with acute lobes and upright white to violet colored trumpet-shaped flowers 4 inches long. The fruit is prickly and 2 inches wide. All kinds of animals, including ostriches, have been killed from eating the foliage of this plant. Children have been poisoned by eating the seeds or sucking the nectar from the large flowers.

**Delphinium spp.** Larkspur

Some of these species are the most important cattle poisoning plants in our western states. The foliage of most species should be regarded as potentially poisonous.

**Digitalis purpurea** 4' Biennial Foxglove

The leaves of this plant are one of the sources for a heart stimulant, digitalis, and if the leaves are ingested in large amounts, they can prove fatal. This is a common garden biennial, sometimes a perennial, with tubular drooping purple flowers in the summer, more or less spotted, on a one-sided spike often 2 feet long.

**Euphorbia cyparissias** 1' Zone 4 Cypress Spurge

A fast spreading, linear-leaved perennial with small flowers in many rayed umbels with the bracts yellowish, this has proved fatal to cattle when ingested in large amounts. It has been used in the garden as a fast spreading ground cover.

**Ranunculus spp.** Buttercups

Foliage eaten in large amounts has poisoned cattle.

**Rheum rhaponticum** 1 1/2-6' Zone 2 Rhubarb

It is interesting to note that the leaves of this common garden food plant are poisonous. The leaf stalks or petioles are commonly eaten, but the leaves when eaten by humans have caused severe poisoning.
Rhus radicans, Rhus vernix

The foliage of Poison Ivy and Poison Sumac causes serious skin rashes on many people. These plants should be given a wide berth and eradicated immediately as soon as they appear in the garden. See Fruits.

Sambucus canadensis 12' Zone 3 American Elder

A common shrub native to the eastern United States with opposite compound leaves, large flat clusters of small white flowers 6-8" across in late June followed by small blue or black berries which have been used in making jams, pies and wines. Eating uncooked berries may produce nausea in humans, and children are reported to have been poisoned by making blow guns from the pithy stems. Apparently such poisoning is not serious nor common.

Symplocarpus foetidus 3' Zone 3 Skunk-cabbage

The fresh leaves which are sometimes as much as 3 feet long and a foot wide contain a toxic principle which is apparently destroyed when they are dried, heated or boiled. Animals have been poisoned by eating the foliage but one taste of the raw, uncooked acrid leaves is enough to prevent humans from eating more.

HOUSE PLANTS USED AS SUCH IN THE NORTHERN U.S.A.

Dieffenbachia seguine 6' Zone 10 Dumb Cane

This tropical plant is sometimes used in greenhouses or homes in this area as a foliage plant because of very large, thick, variously spotted leaves. However, it has long been known that to take a bite out of the stalk of this plant causes a throat irritation resulting in the loss of speech for several days or more, and such irritation might cause a swelling of the tongue, and clogging of the windpipe.

Euphorbia pulcherrima 10' Zone 9 Poinsettia

This is the popular greenhouse and house plant familiar to everyone, grown out-of-doors in the South. The milky sap is a skin irritant and the leaves are supposed to be poisonous if eaten.

Lantana camara 4' Zone 10 Common Lantana

A house plant in the North, with opposite leaves and flat axillary clusters of tubular flowers, yellow to pink at first but maturing to orange or bright red. The fruit is greenish-blue or black, a fleshy, one-seeded drupe about ½ inch wide. The foliage has caused considerable livestock poisoning in Florida and California where the plant is grown out-of-doors but children have been poisoned by eating the fruit.

Nerium oleander 6-20' Zone 9 Oleander

A popular garden evergreen in the South and frequently grown in tubs in greenhouses in the North, moved out-of-doors during the summer. It is valued
for its evergreen linear leaves and its large clusters of conspicuous pink and white flowers. It has been known as poisonous since classical times.

Philodendron spp.  Mostly vines  Zone 10

Many of these species are common house plants. The leaves may contain an irritant principle, and supposedly have been responsible for the death of cats eating the foliage. It would be well to prevent children from eating the leaves.

Phoradendron flavescens  1 1/2'  Zones 6-7  American Mistletoe

A common household decorative plant at Christmas with small white berries borne in clusters. This is a parasitic shrub in the South but large quantities of cut branches are shipped north in the fall of every year. Both children and adults have been severely poisoned from eating the fruits. The European Mistletoe, Viscum album, is also considered poisonous.

Solanum pseudo-capsicum  4'  Zone 8(?)  Jerusalem-cherry

This is a popular greenhouse plant used a great deal at Christmas for the bright red rounded fruits, ½ inch in diameter and remaining on the plant for a long time. Although no serious experiences with this have been recently documented, the fruits have long been suggested as poisonous. To be safe, it would be wise to prevent children from eating them.

Foliage of other common garden or woods plants such as Rhododendron, Mountain-laurel, Lamb-kill, Chokecherry (Prunus virginiana), Indian Poke or False Hellebore (Veratrum viride) and Pieris species have been poisonous to livestock especially when eaten in large amounts.

PLANTS OF GARDEN OR WOODS
WITH POISONOUS ROOTS AND STEMS

Arisaema triphyllum  Jack-in-the-pulpit
Colchicum autumnale  Autumn Crocus
Convallaria majalis  Lily-of-the-Valley
Dicentra spp.  Bleeding-heart and Dutchman's Breeches
Gloriosa superba  Glory-lily
Hyacinthus spp.  Hyacinth
Iris spp.  Iris, Flags
Narcissus spp.  Narcissus, Daffodil
Ornithogalum umbellatum  Star-of-Bethlehem
Phytolacca americana  Pokeweed
Podophyllum peltatum  May-apple, Mandrake

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