# Poisons and Antidotes

Ansteorra Herbal & Apothecary Guild Course

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## Introduction

This class is one of the 12 Classes from the prospective Ansteorra Herbal & Apothecary Guild's "Certificate of Apothecary Basics".

This class is strictly for educational purposes and studies the medicine from pre-1600. It is not to be considered Medical advice, nor should you take any of its content as medical advice. Please see a registered or licensed medical professional for medical advice.

## Poisons - Animal

**Vipers:** from the family viperidae (Asp Viper (Vipera aspis), European Viper (Vipera berus) and Horned Viper (Cerastes cerastes)

Viper venoms typically contain protein-degrading enzymes, called proteases, that produce symptoms such as pain, strong local swelling and necrosis, blood loss from cardiovascular damage complicated by a bleeding disorder, and disruption of the blood-clotting system. Death is usually caused by collapse in blood pressure.

The left and right fangs can be rotated together or independently. During a strike, the mouth can open nearly 180° and the maxilla rotates forward, erecting the fangs as late as possible so that the fangs do not become damaged, as they are brittle. The jaws close upon impact and the muscular sheaths encapsulating the venom glands contract, injecting the venom as the fangs penetrate the target. This action is very fast; in defensive strikes, it will be more a stab than a bite. Viperids use this mechanism primarily for immobilization and digestion of prey.

In some cases, with non-prey such as humans, they may give a dry bite (not inject any venom). A dry bite allows the snake to conserve their precious reserve of venom, because once it has been depleted, it takes time to replenish, leaving the snake vulnerable.

Due to the nature of proteolytic venom, a viperid bite is often a very painful experience and should always be taken seriously, though it may not necessarily prove fatal. Even with prompt and proper treatment, a bite can still result in a permanent scar, and in the worst cases, the affected limb may even have to be amputated. A victim's fate is impossible to predict, as this depends on many factors, including the species and size of the snake involved, how much venom was injected (if any), and the size and condition of the patient before being bitten.

**Cobras/Adders/Mambas**: from the family Elapidae

The venoms generally contain neurotoxins that disable muscle contraction and cause paralysis. Death from elapid bites usually results from asphyxiation because the diaphragm can no longer contract.

A pair of proteroglyphous fangs used to inject venom from glands located towards the rear of the upper jaws.

A few species are capable of spraying their venom from forward-facing holes at the tips of their fangs using pressure, and this can act as a means of defense.

Considered to be the world's most venomous land snakes. Additionally, some large-sized snakes in this family, such as the Asiatic king cobra, African black mamba, forest cobra, and Australian coastal taipan, can inject a large quantity of venom.

**Scorpion**

All known scorpion species possess venom and use it primarily to kill or paralyze their prey so that it can be eaten. In general, it is fast-acting, allowing for effective prey capture. However, as a general rule, they will kill their prey with brute force if they can, as opposed to using venom. It is also used as a defense against predators.

The venom is a mixture of compounds (neurotoxins, enzyme inhibitors, etc.) each not only causing a different effect but possibly also targeting a specific animal. Each compound is made and stored in a pair of glandular sacs and is released in a quantity regulated by the scorpion itself.

Of the 1,000+ known species of scorpion, only 25 have venom that is deadly to humans; most of those belong to the family Buthidae

## Poisons - Vegetable (This in no way includes all the poisonous plants)

**Monkshood** (Aconitum)

Alternate Names – Wolfbane, Aconite

Symptoms may appear almost immediately, usually not later than one hour.

Death usually occurs within two to six hours in fatal poisoning

20 to 40 ml of tincture may prove fatal. (4-8 tsp.)

Symptoms start with gastrointestinal distress (nausea, vomiting, and diarrhea). This is followed by a sensation of burning, tingling, and numbness in the mouth and face, and of burning in the abdomen. In severe poisonings, pronounced motor weakness occurs and cutaneous sensations of tingling and numbness spread to the limbs. Cardiovascular features include hypotension, sinus bradycardia, and ventricular arrhythmias. Other features may include sweating, dizziness, difficulty in breathing, headache, and confusion.

The main causes of death are abnormal heart rhythm, or paralysis of the heart or respiratory system.

**Water Hemlock** (Cicuta)

Alternate Names - cowbane, wild carrot, snakeweed, poison parsnip, false parsley, children's bane and death-of-man

The root, when freshly pulled out of the ground, is extremely poisonous

Contains the toxin cicutoxin, a central nervous system stimulant that induces seizures.

When dried, the poisonous effect is reduced

**Hemlock** (Conium)

Alternate Names - hemlock, poison hemlock, spotted parsley, spotted cowbane, bad-man's oatmeal, poison snakeweed and beaver poison

All parts of the plant contain the alkaloid coniine

causes stomach pains, vomiting, vertigo and progressive (ascending) paralysis of the central nervous system; can be fatal.

An infusion of poison hemlock is said to have killed Socrates in 399 BC.

**Foxglove** (Digitalis)

The leaves, seeds, and flowers are poisonous, containing cardiac or other steroid glycosides

Causes irregular heartbeat, general digestive upset, and confusion

The modern medicine Digoxin is derived from this, but has fallen in frequency of use due to the small margin of error in the dose, and the need to constantly monitor the blood levels.

**Henbane** (Hyoscyamus niger)

Seeds and foliage contain hyoscyamine, scopolamine and other tropane alkaloids.

Common effects of henbane ingestion include hallucinations, dilated pupils, restlessness, and flushed skin. Less common effects are increased heart rate, convulsions, vomiting, high blood pressure, extremely high fever, and the loss of full control of bodily movements. Other possible side effects include, dryness in the mouth, confusion, locomotor and memory disturbances, and farsightedness.

Initial effects typically last for three to four hours, while aftereffects may last up to three days

Over dosages result in delirium, coma, respiratory paralysis, and death.

**Deadly Nightshade** (Atropa belladonna): from the family Solanaceae

Alternate Names - belladonna, devil's berries, naughty man's cherries, death cherries, beautiful death, and devil's herb.

All parts of the plant contain tropane alkaloids. The active agents are atropine, hyoscine (scopolamine), and hyoscyamine, which have the effect of blocking the neurotransmitter acetylcholine in the central and the peripheral nervous system.

The symptoms of poisoning include dilated pupils, sensitivity to light, blurred vision, tachycardia, loss of balance, staggering, headache, rash, flushing, dry mouth and throat, slurred speech, urinary retention, constipation, confusion, hallucinations, delirium, and convulsions

Ingestion of a single leaf of the plant can be fatal to an adult. Casual contact with the leaves can cause skin pustules. The berries pose the greatest danger to children because they look attractive and have a somewhat sweet taste. The consumption of two to five berries by children and ten to twenty berries by adults can be lethal.

The plant's deadly symptoms are caused by atropine's disruption of the parasympathetic nervous system's ability to regulate involuntary activities such as sweating, breathing, and heart rate.

**Bloodroot** (Sanguinaria)

Alternate Names - bloodwort, redroot, red puccoon, pauson, and tetterwort. (tet·ter: a skin disease in humans or animals causing itchy or pustular patches, such as eczema or ringworm)

The rhizome contains morphine-like benzylisoquinoline alkaloids, primarily the toxin sanguinarine. Sanguinarine kills animal cells by blocking the action of Na+/K+-ATPase transmembrane proteins. As a result, applying bloodroot to the skin may destroy tissue and lead to the formation of a large scab, called an eschar. Bloodroot and its extracts are thus considered escharotic. Internal use is not recommended.

An overdose of bloodroot extract can cause vomiting and loss of consciousness.

**Meadow Saffron** (Colchicum)

The bulbs contain colchicine. Colchicine poisoning has been compared to arsenic poisoning.

Symptoms typically start 2 to 5 hours after a toxic dose has been ingested but may take up to 24 hours to appear, and include burning in the mouth and throat, fever, vomiting, diarrhea, abdominal pain and kidney failure.

Despite dosing issues concerning its toxicity, colchicine is prescribed in the treatment of gout.

**Columbine** (Aquilegia)

Seeds and roots contain cardiogenic toxins which cause both severe gastroenteritis and heart palpitations if consumed.

The flowers of various species were consumed in moderation by Native Americans as a condiment with other fresh greens, and are reported to be very sweet, and safe if consumed in small quantities. Native Americans also used very small amounts of the root as an effective treatment for ulcers. However, medical use of this plant is difficult due to its high toxicity

columbine poisonings are easily fatal

**Larkspur** (Consolida)

Contains the alkaloid delsoline (similar in structure to alkaloid in monks-hood)

Young plants and seeds are poisonous, causing nausea, muscle twitches, paralysis, and often death.

**Lily of the Valley** (Convallaria)

Contains 38 different cardiac glycosides.

All parts of the plant are highly poisonous, including the red berries which may be attractive to children. If ingested—even in small amounts—the plant can cause abdominal pain, vomiting, reduced heart rate, blurred vision, drowsiness, and red skin rashes.

The flower is also known as Our Lady's tears or Mary's tears from Christian legends that it sprang from the weeping of the Virgin Mary during the crucifixion of Jesus.

## Poisons - Mineral

**Arsenic**

If exposure occurs over a brief period of time symptoms may include vomiting, abdominal pain, encephalopathy, and watery diarrhea that contains blood.

Long-term exposure can result in thickening of the skin, darker skin, abdominal pain, diarrhea, heart disease, numbness, and cancer.

During the Elizabethan era, some women used a mixture of vinegar, chalk, and arsenic applied topically to whiten their skin. This use of arsenic was intended to prevent aging and creasing of the skin,

Arsenic became a favored method within the last few hundred years of our period, particularly among ruling classes in Italy. Because the symptoms are similar to those of cholera, which was common at the time, arsenic poisoning often went undetected.

**Mercury**

Dioscorides wrote in De Materia Medica, “It is destructive. Taken as a drink it eats through the internal organs by its weight.” This is included because often in period it was used medicinally, but not always, and was known as a poison by some.

Common symptoms of mercury poisoning include peripheral neuropathy, presenting as paresthesia or itching, burning, pain, or even a sensation that resembles small insects crawling on or under the skin; skin discoloration (pink cheeks, fingertips and toes); swelling; and shedding or peeling of skin. Other symptoms may include kidney dysfunction or neuropsychiatric symptoms such as emotional changes, memory impairment, or insomnia.

**Lead**

Symptoms of lead poisoning: High blood pressure, joint and muscle pain, difficulties with memory or concentration, headache, abdominal pain, mood disorders, reduced sperm count and abnormal sperm, miscarriage, stillbirth or premature birth in pregnant women

Some Elizabethan Make-up included a lead mixed with vinegar. Many Tudor medicines used it as well.

## Antidotes - The term ultimately derives from the Greek antidoton, "(medicine) given as a remedy"

**Mithridatium / Theriac**

The Earliest intact recipe includes Costmary, Sweet Flag(a type of Iris), Hypericum (St John’s Wort), Gum (Mastic resin from the Mastic Tree), Sagapenum (resin from the genus Ferula) , Acacia, llyrian Iris, Cardamon, Anise, Gallic Nard (a type of Valerian) , Gentian Root, Rose Leaves, Poppy Tears, Parsley, Cassia (Real Cinnamon), Saxifrage (aka Rockfoils), Darnel (A type of grass), Long Pepper, Storax (resin), Castoreum (Beaver Gland), Frankincense, Hypocistis Juice (A parasitic plant native to the Mediterranean), Myrrh, Opopanax (From either Opopanax chironium or could be Red Myrrh), Malabathrum (related to Cinnamon), Round Rush Flower, Turpentine Resin, Galbanum (Ferula gummosa), Cretan Carrot Seed (Similar to Queen Anne’s Lace), Nard (Another type of Valerian), Opobalsam (resin from Balsamon balsam) , Shepherd’s Purse, Rhubarb Root, Saffron, Ginger, Cinnamon and Honey

First recipe made by King Mithridates VI of Pontus (135–63 BC)

Made from a combo of Megalium, Kyphi and an antidote made by Egyptian Physician Zopyrus

After 5th Century also called Theriac or Treacle

Believed to be an antidote for all poisons
Earliest intact recipe by Celsus
As many as 68 ingredients /dozens of variations
When Mithridates was defeated by Romans, legend says he tried to poison himself and failed
As time progressed became a "cure-all" and one of the most desirable Apothecary treatments
Used as a Cure for many ailments, including the plague, into the 1800's

**Antidotes**

Dioscorides – *De Materia Medica*

Walnuts eaten after or as a preventative, with figs and rue.
Castoreum taken in a drink with vinegar.
Poultry dung taken as a drink in vinegar or wine. (Against Mushroom Poisoning)
A person that drinks his own urine will have an antidote against vipers and deadly medicines.
Take honey and mix with rose and poppy.
Catnip taken in wine will help prevent poisoning.
Caraway mixed in a oxymel (vinegar and honey drink)
Salt drank with vinegar and honey, is an antidote for poppy tears or mushrooms.

Pliny the Elder – *A Natural History*

Like the crocodile, but smaller even than the ichneumon, is the scincus, which is also produced in the Nile, and the flesh of which is the most effectual antidote against poisons, and acts as a powerful aphrodisiac upon the male sex.
By some it is known as the nerium, and by others as the rhododaphne. It is an evergreen, bear- ing a strong resemblance to the rose-tree, and throwing out numerous branches from the stem; to beasts of burden, goats, and sheep it is poisonous, but for man it is an antidote against the venom of serpents.
Every species of rue, employed by itself, has the effect also of an antidote, if the leaves are bruised and taken in wine. It is good more particularly in cases of poisoning by wolf's bane and mistletoe, as well as by fungi, whether administered in the drink or the food.
Applied topically with bitter almonds, aniseed is beneficial for maladies of the joints. There are some persons who look upon it as, by nature, an antidote to the venom of the asp.
The seed of it (nettle), according to Nicander, is an antidote to the poison of hem- lock, of fungi, and of quicksilver. Apollodorus prescribes it, too, taken in the broth of a boiled tortoise, for the bite of the salamander, and as an antidote for the poison of henbane, serpents, and scorpions.
The following, as we learn from Dieuches, was the manner in which oxymeli was prepared by the ancients. In a cauldron they used to put ten minæ of honey, five heminæ of old vinegar, a pound and a quarter of sea-salt, and five sextarii of rain-water; the mixture was then boiled together till it had simmered some ten times, after which it was poured off, and put by for keeping. Asclepiades, however, condemned this preparation, and put an end to the use of it, though before his time it used to be given in fevers even. Still, however, it is generally admitted that it was useful for the cure of stings inflicted by the serpent known as the "seps," and that it acted as an antidote to opium and mistletoe.

Hildegard von Bingen – *Physica*

If someone drinks a poison, he should take equal weights of costmary, rue, and betony and, having pounded them in a mortar, express the liquid. Then he should take twice as much juice of garden spurge and add it to the above-mentioned liquid. When these are well mixed, he should strain it through a cloth and drink it on an empty stomach. When he drinks, he should be seated in a warm place, so he does not get chilled. It would be very dangerous for him to be cold right then. After drinking this, he should drink

hydromel, and the poison will foam out, through nausea, or it will travel to the lower regions, and so be released.

Calendula (ringula) is cold and moist. It has strong vital energy, and prevails against poison. Whosoever has eaten poison should cook calendula in water and, after squeezing out the water, place it, warm, over his stomach. It weakens the poison which can be excreted. The same person should quickly warm up good wine, place some calendula in it, and warm it again. Because he has consumed poison, he should drink the wine semi-warm. He will get rid of the poison through his nose, as foam.

Sulfur used in concoctions, it draws bad humors to itself. It is not useful as medicine, unless a person has had some poison or enchantment prepared for him, or if he has delusions. If sulphur is burned, its odor is so strong that all things are weakened by it, and they are less able to do damage, just as where there are two evil companions, one exceeds the other in wickedness.

If a person eats or drinks poison, grate a moderate amount of beryl into spring water, or any other kind of water. He should drink this immediately, and do the same thing for five days, drinking once a day on an empty stomach. The poison will either foam out through nausea or pass through his posterior.

If poison is present in bread, meat, fish, or any food, or in water, wine, or other drink, and there is topaz nearby, it will immediately sweat, just as the sea foams when there is filth in it. Therefore, when a person eats and drinks, he should hold his finger, with a topaz on it, next to the food and drink. He should frequently look at it. If there is anything poisonous in the food or drink, it will immediately sweat.

One who has eaten or drunk poison should pulverize equal amounts of the lung and liver of a whale, adding as much horehound as there is of this powder. He should add a bit of honey, cook it with pure, good wine, and drink it warm in the morning, on an empty stomach, two or three times before day. He will spew out the poison he had consumed by nausea, or it will pass through him into the privy.

If anyone wishes to kill you with poison while you are girded with this belt containing the vulture heart, you will soon sweat and your whole body will tremble. You will know that poison is nearby, and you will be able to avoid it.

A person should also dry the end of a lion's tail and keep it with him always. He will not easily be harmed by the hissings of airy spirits, or by magic. And, when he eats or drinks, he should hold it near his food or drink. If there is poison in these, they will be set in motion in their vessels. Also, the vessel which contains poison will sweat, and in this way the poison will be detected.

Lacnunga

Take horehound's seed and mix with wine.

Nine Herb Charms – For use against Nine poisons- red, running, white, pale blue, yellow, green, dark blue, bright and purple poison.

- Mucgwyrt Mugwort (Artemisia vulgaris)
- Attorlaðe (identified as cockspur grass (Echinochloa crus-galli)
- Stune Lamb's cress (Cardamine hirsuta)
- Wegbrade Plantain (Plantago)
- Mægðe Mayweed (Matricaria)
- Stiðe Nettle (Urtica)
- Wergulu Crab-apple (Malus)
- Fille Thyme (Thymus vulgaris)
- Finule Fennel (Foeniculum vulgare)

Against flying poison – strike four blows on four sides with an oaken brand, bloody the brand, throw it far away.

Physicians of Myddfai

For a bite of a spider add juice of fennel, radish, and rue or wormwood, to oil and drink or eat it.

A good antidote for poison is juice of dittany in wine.

For a spider bite take juice of plantain, ground ivy, and olive oil, and let the patient drink and anoint the wound with the mixture.

For poison from a spider, peel 9 cloves of garlic and add to a spoonful of Treacle, and quart of strong ale. As well as having the patient drink this put him/her in extra clothes.

William Turner - *A New Herball*

Wormwood is good against the poison of ixia when taken with wine.

The Juice of cleavers, made from the seeds, stalks and leaves, is good against the biting of vipers, phalanges, and other venomous beasts.

Cole juice mixed in wine is beneficial for healing the bite of vipers.

John Gerard - *Great Herball, or, Generall Historie of Plantes*

A Decoction (Made by boiling the herb in water, wine or vinegar) of angelica is good for the bites of Venomous beast.

Elder leaves mixed and pounded well with barley meal does help with applied to a bite of a venomous beast.

Walnut Pounded with onion, Salt and honey is helpful against the bite of a toxic beast or the bite of a man.

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If you are interested in being a part of the Herbal & Apothecary Guild, here are some online places to join for communication purposes:

**Website:** https://ansteorra.org/herbalismapothecary

**Kingdom of Ansteorra Herbalism and Apothecary Guild**: https://www.facebook.com/groups/972679779453774/

**Northern Regional Herbalism and Apothecary Guild of Ansteorra:**
https://www.facebook.com/groups/836896110086684/

**Central regional herbal and apothecary guild of Ansteorra:** https://www.facebook.com/groups/447252855735070/

**Herbalist** -- Ansteorran herbalist email list: http://lists.ansteorra.org/listinfo.cgi/herbalist-ansteorra.org

**Ansteorra Herbal & Apothecary Guild Roster:** https://tinyurl.com/ybufeg9s