Buckthorn Bark Profile

Also known as

Rhamnus frangula, Alder Dogwood, Arrow Wood, Black Dogwood, Buckthorn, Buckthorn Bark, Dog Wood, Frangula Alnus, Frangula Bark, Frangulae Cortex, Glossy Buckthorn, Rhamnus Frangula.

Introduction

The buckthorn is a shrub native to Europe, Western Asia, and the Middle East. It has been used as a laxative since the seventeenth century, and it was brought to the United States with early settlers for that purpose. Buckthorn is a popular ingredient in European laxative extracts, tablets, and teas, and, oddly enough, added to sun block. Buckthorn is never used fresh. It is collected in the summer, and then must be aged for at least a year to break down its anthrone chemicals. If the buckthorn is not aged, it is not laxative, it is purgative, causing intense intestinal spasms and vomiting. The herb can be artificially aged by heating or aeration, but some useful constituents may be lost.

Constituents

1,8-dihydroxy-anthracene derivatives (in the aged bark), flavonoids, and tannins.

Parts Used

Properly aged bark. (1 year recommended)

Typical Preparations

Best taken as a tablet, can be used as a tea but is hard to drink given its bitter taste. May also be prepared as an extract.

Summary

Buckthorn bark is one of the botanical ingredients that are in Harry Hoxseysâ€™ original folk cancer cure. Although modern variations of his formula do not include buckthorn, there have been tests that show that anthraquinone derivatives in Buckthorn may have anti-cancer properties. The 1, 8-dihydroxy-anthracenes in buckthorn act on the nerves in the intestinal tract, numbing the nerves that hold back stool and stimulating the nerves that propel stool downward. If you experience cramping, youâ€™ve used too much. Historically, it has also been used as a dye for textiles.

Precautions

You should not use buckthorn or any other laxative if you have appendicitis, Crohn's disease, or ulcerative colitis. Not recommended for children under 12. Not recommended while pregnant. Avoid long term use, and discontinue in the event of diarrhea or watery stools.

BUCKTHORN (COMMON)

Family: N.O. Rhamnaceae

---Synonyms---Highwaythorn. Waythorn. Hartsthorn. Ramsthorn.
---Part Used---Berries.

Three species of the genus *Rhamnus* (the name derived from the Greek *rhamnos*, a branch) are possessed of the same medicinal properties in varying degrees.

The Common or Purging Buckthorn, a much-branched shrub, usually about 6 feet high, but sometimes as much as 10 or 12 feet, is indigenous to North Africa, the greater part of Europe and North Asia. Though found throughout England in woods and thickets and near brooks, it is practically confined to a calcareous soil, except in a few counties, such as Bucks., Herts., Oxon. and Wilts. In Scotland it occurs only in a single locality.

---Description---The main stem is erect, the bark smooth, of a blackish-brown colour, on the twigs ash-coloured. The smaller branches generally terminate in a stout thorn or spine, hence the ordinary name of Buckthorn, and the older names by which the shrub has been known: Highwaythorn and Waythorn. Gerard calls it Ram or Hart's Thorn. The leaves grow in small bunches on footstalks, mostly opposite towards the base of the young shoots, though more generally alternate towards the apex. They are eggshaped and toothed on the edges, the younger ones with a kind of soft down. In the axils of the more closely arranged leaves, developed from the wood of the preceding year, are dense branches of small greenish-yellow flowers, about one-fifth inch across, which are followed by globular berries about the size of a pea, black and shining when ripe, and each containing four hard, dark-brown seeds.

Goats, sheep and horses browse on this shrub, but cows refuse it. Its blossoms are very grateful to bees.

---Part Used---The *berries* are the part used medicinally, collected when ripe and from which an acrid, nauseous, bitter juice is obtained by expression. From this juice, with the addition of sugar and aromatics, syrup of Buckthorn (*Succus Rhamni*) is prepared.

When freshly gathered in the autumn, the berries are about 1/3 inch in diameter, with the remains of a calyx beneath. The fruit is collected for use chiefly in the counties of Herts., Bucks. and Oxon, and is usually expressed in the locality where it is grown, by the collectors themselves, who sell the juice to the wholesale druggists, generally more or less diluted with water, the admixture being generally about 6 parts water to 1 of juice.

From the dried berries, a series of rich but fugitive colours is obtained; the berries used to be sold under the name of 'French berries' and imported with those of *Rhamnus infectorius* from the Levant. If gathered before ripe, the berries furnish a yellow dye, used formerly for staining maps or paper. When ripe, if mixed with gum-arabic and limewater, they form the pigment 'Sap or bladder green,' so well known to water-colour painters. The bark also affords a yellow dye.

[Top]

---Cultivation---Buckthorn is seldom cultivated, the berries being collected from thewild shrubs, but it can be easily raised from seed in autumn, soon after the berries are ripe, usually about September, but if left too late the berries soften and will not bear carriage well. The shrub may also be propagated like any other hardy deciduous tree or shrub by cuttings or layers: if the young shoots be laid in autumn, they will have struck roots by the following autumn, when they may be separated and either planted in a nursery for a year or two, or at once planted in permanent quarters. Buckthorn is not so suitable for hedges as the hawthorn.

---Constituents---Buckthorn berry juice contains Rhamnocathartin (which is yellowand uncrystallizable), Rhamnin, a peculiar tannic acid, sugar and gum. The fresh juice is coloured red by acids and yellow by alkalies, and has a bitter taste and nauseous odour. Its specific gravity should be between 1.035 and 1.070, but it is seldom sold pure. The ripe berries yield on expression 40 to 50 percent of juice of a *green* colour, which on keeping turns, however, gradually to a reddish or purplish brown colour, on account of the acidification of the saccharine and mucilaginous matter.

---Medicinal Action and Uses---Laxative and cathartic.

Buckthorn was well known to the AngloSaxons and is mentioned as Hartsthorn or Waythorn in their medical writings and glossaries dating before the Norman Conquest. The Welsh physicians of the thirteenth century prescribed the juice of the fruit of Buckthorn boiled with honey as an aperient drink.

The medicinal use of the berries was familiar to all the writers on botany and materia medica of the sixteenth century, though Dodoens in his *Herbal* wrote: 'They be not meat to be administered but to the young and lusty people of the country which do set more store of their money than their lives.'

Until late in the nineteenth century, syrup of Buckthorn ranked, however, among favourite rustic remedies as a purgative for children, prepared by boiling the juice with pimento and ginger and adding sugar, but its action was so severe that, as time went on, the medicine was discarded. It first appeared in the London Pharmacopceia of 1650, where, to disguise the bitter taste of the raw juice, it was aromatized by means of aniseed, cinnamon, mastic and nutmeg. It was still official in the British Pharmacopoeia of 1867, but is no longer so, being regarded as a medicine more fit for animals than human beings, and it is now employed almost exclusively in veterinary practice, being commonly prescribed for dogs, with equal parts of castor oil as an occasional purgative.

The flesh of birds eating the berries is stated to be purgative.

There used to be a superstition that the Crown of Thorns was made of Buckthorn.

BUCKTHORN (ALDER)

Botanical: Rhamnus Frangula (LINN.)
Family: N.O. Rhamnaceae

---Synonyms---Black Dogwood. Frangula Bark.
---Part Used---Bark.
---Habitat---The Alder Buckthorn is a slender shrub, widely distributed over Europe and northern Asia, and found in woods and thickets throughout England, though rare in Scotland.

In place of the violently-acting juice of the berries of the Common Buckthorn, a fluid extract prepared from the bark of the closely allied and milder Alder Buckthorn or Black Alder (*Rhamnus Frangula*, Linn.) has been proved a very satisfactory substitute. Frangula bark is official both in the United States and the British Pharmacopoeia. Its use has been, however, somewhat neglected and the much advertized Cascara Sagrada (*R. purshianus*) has greatly taken its place, though itis a less agreeable aperient.

---Description---It is generally about the same size as the Common Buckthorn, but is distinguished from it by its less bushy and more tree-like habit, by the absence of thorns on its branches and by its larger and entire, not toothed, feather-veined leaves, which are all arranged alternately on the stem, none opposite to one another. The flowers are produced not only from the wood of the preceding year, but also on the shoots of the current year, and have a five-parted calyx, while that of the Common Buckthorn is four-cleft. They bloom in May and are of an inconspicuous green. Their fruit, which is ripe in September, is not unlike that of the Common Buckthorn, but the berry has only two, or at most three, roundish, angular seeds, instead of four. Bees are likewise constant visitors of the flowers of this species, and goats eat the leaves voraciously.

It grows as a rule in leaf-mould in woods comparatively free from lime.

The bark and leaves of the Alder Buckthorn yield a yellow dye much used in Russia; when mixed with salts of iron it turns black. The berries, when unripe, afford a good green colour, readily taken by woollen stuffs; when ripe, they give various shades of blue and grey.

After removal of the bark from the stem and branches, the wood of this shrub is used for making charcoal, yielding a very light, inflammable kind, and being on that account preferred to that of almost any other tree by gunpowder makers, who name it 'Black Dogwood.' In Germany, for the same reason, it is called *Pulverholz* ('powder-wood').

---Cultivation---Frangula bark is usually collected from wild shrubs, but this Buckthorn can readily be cultivated. The seeds should be sown as soon as ripe, not kept till the following spring. The seedlings should be kept free from weeds, and in the autumn planted in the nursery in rows 2 feet asunder and 1 foot distant in the rows. Stock may also be increased by layers and cuttings, though propagation by seedling plants is preferable.

---Part Used Medicinally---The dried bark collected from the young trunk and moderately-sized branches in early summer and kept at least one year before being used. It is stripped from the branches and dried either on sunny days, out of doors, in halfshade, or by artificial heat, on shelves or trays, in a warm, well-ventilated room.

The dried bark varies considerably in appearance, according to the age of the branch or stem from which it has been taken. Young bark, which is to be preferred, occurs in narrow, single or double quills and is of papery texture, about 1/25 inch thick. It is of a greyish or blackish-brown colour outside, with numerous small, whitish corky warts. When gently scraped, the inner layers are seen to be crimson in colour. The inner surface of the bark is smooth, of a pale, yellowish brown and very finely striated. The fracture is short. Older bark is rougher externally, thicker and usually in single quills or channelled pieces.

The bark is nearly inodorous; its taste is pleasant, sweetish and slightly bitter. When masticated, it colours the saliva yellow.

---Constituents---The chemical constituents of Frangula Bark, especially those to which the laxative properties are due, are but imperfectly known. A yellow, crystalline glucoside, Frangulin has been isolated from it. Emodin is present in old bark; this principle is also present in rhubarb root; it is allied to Chrysophane, and is said to result from the glucosic fermentation of Frangulin or Frangulic acid, and to its presence the drug owes its purgative action. Possibly other glucosides are also present and contribute to the laxative action, but the evidence in favour of this assumption is not conclusive. Two resins, resinous bitter matter and a little tannic acid are likewise present in the bark.

---Medicinal Action and Uses---Tonic, laxative, cathartic.

Dried seasoned bark from one to twoyears old alone should be used, as the freshlystripped bark acts as an irritant poison on the gastro-

intestinal canal. The action of the bark becomes gradually less violent when kept for a length of time and more like that of rhubarb.

It is used as a gentle purgative in cases of chronic constipation and is principally given in the form of the fluid extract, in small doses, repeated three or four times daily, a decoction of 1 OZ. of the bark in 1 quart of water boiled down to a pint, may also be taken in tablespoonful doses.

---Preparation---Fluid extract, 1/2 to 2 drachms.

This milder English Buckthorn acts likewise as a tonic to the intestine and is especially useful for relieving piles.

Lozenges of the Alder Buckthorn are dispensed under the name of 'Aperient Fruit Lozenges.'

The juice of the berries, though little used, is aperient without being irritating.

Country people used to take the bark boiled in ale for jaundice.

BUCKTHORN (CALIFORNIAN)

Botanical: Rhamnus purshianus
Family: N.O. Rhamnaceae

---Synonyms---Sacred Bark. Cascara Sagrada.
---Part Used---Bark.

The Californian Buckthorn (*Rhamnus purshianus*), known more commonly as Cascara Sagrada, is a nearly-allied shrub growing in the United States, from northern Idaho westward to the Pacific Ocean. The drug prepared from its bark is now more commonly employed than those prepared from the two previously described species.

The bark is collected in spring and early summer, when it is easily peeled from the wood, and is dried in the shade.

Since, as is the case with *R. Frangula*, it is considered that the action of the bark becomes milder and less emetic by keeping, matured bark, three years old, is preferred for pharmaceutical purposes.

---Description---As imported, the drug mostly occurs in quills or incurved pieces of varying lengths and sizes, smooth or nearly so externally, covered with a greyish-white layer, which is usually easily removed, and frequently marked with spots or patches of adherent lichens. Beneath the surface it is violet-brown, reddish-brown or brownish, and internally a pale yellowish-brown and nearly smooth. It has no marked odour, but a nauseous, bitter taste.

It is frequently also imported in flattened packets, consisting of small pieces of the bark compressed into a more or less compact mass.

The fluid extract is made by maceration and percolation with diluted alcohol and evaporation.

---Constituents---The chemical constituents of the bark are but imperfectly known. It has been proved to contain Emodin and an allied substance possibly identical with the Frangula-Emodin of Alder Buckthorn bark. Fat, starch, glucose, a volatile odorous oil, malic and tannic acids are also present. The assertion has been made that the bark contains glucosides which yield on hydrolysis Chrysophanic acid, but the evidence on this point is conflicting.

---Medicinal Action and Uses---Cascara Sagrada is a mild laxative, acting principally on the large intestine. It is considered suitable for delicate and elderly persons, and may with advantage be given in chronic constipation, being generally administered in the form of the fluid extract.

It acts also as a stomachic tonic and bitter, in small doses, promoting gastric digestion and appetite.

---Preparations---

Fluid extract, B.P., 5 drops to 1 drachm.
Fluid extract, U.S.P., 15 drops.
Fluid extract, tasteless, 1/4 to 1 drachm.
Fluid extract, aromatic, U.S.P., 15 drops.
Aromatic syrup, B.P., 1/2 to 2 drachms.
Powder extract, 2 to 10 grains.
Rhamnin, 2 to 6 grains.

In veterinary practice, Cascara Sagrada is also much used and is probably the best mild purgative remedy for dogs with chronic constipation, as the dose does not require to be increased by repetition and the tone of the bowels is improved by the drug.

BUCKTHORN (SEA)

Botanical: Hippophae rhamnoides
Family: N.O. Rhamnaceae

---Synonym---Sallow Thorn. The Sea Buckthorn (*Hippophae rhamnoides*), a thorny shrub with narrow willowlike leaves growing on sandhills and cliffs on the East Coast, and called also ' Sallow Thorn, ' is in no way related to these medicinally employed Buckthorns but belongs to a different natural order: *Elaeagnaceae*. Its fruit, an orange-coloured berry, is made (in Tartary) into a pleasant jelly, because of its acid flavour, and is used in the countries bordering on the Gulf of Bothnia as an ingredient to a fish sauce. The name *Hippophae* has been variously derived either as meaning 'giving light to a horse,' because of a supposed power to cure equine blindness, or as signifying 'shining underneath,' an allusion to the silvery underside of the leaf. The stems, roots and foliage are said to impart a yellow dye.

Henslow relates that in some parts of Europe the berries are considered poisonous, and a story is told by Rousseau of a person who saw him eating them, and, though believing them to be poisonous, had too much respect for the great man to caution him against the supposed danger! A decoction of them is said to be useful in cutaneous eruptions. The colour may be extracted by hot water and used as a dye for woollen stuffs, but it is not very brilliant when so obtained. This plant runs very much at the root, and by its long suckers often assists in binding loose sandy dunes on which it grows.

Some of the plants of this order (*Elaeagnaceae*) are said to possess narcotic properties.