



## Ethnobotanical Leaflets



### Juniper Berry

By Karma Ashley

Juniper is a short evergreen shrub whose fruit and oil provides a flavoring agent used extensively in the food, perfume, and soap industries. Juniper berry is probably best known as the unique flavoring agent of gin, an important component of the dry martini, a popular intoxicant and a putative calmative revered by western culture for over 300 years. As a medicinal remedy, juniper has a long history of use employed as a treatment for numerous diseases by ancient Greek and Arab healers, as well as Native American Indians.(2)

Juniper berries have been used since the 16th century in herbal medicines. They are rich in vitamin C, volatile oils and other nutrients. (11) The junipers are also used in aromatherapy, which is the use of essential oils through inhalation, massage, bathing, or ingestion to create good health and beauty. The science of aromatherapy can be traced back over 5000 years to the Egyptians. The practice of employing the essences of plants for medicinal and therapeutic beauty treatments is thousands of years old. (10)

The scientific name of juniper is *Juniperus communis*. It belongs to the family Cupressaceae. Common names include juniper berry, genepro, and enebro. (7) The genus has about 60 to 70 species of aromatic evergreen trees or shrubs distributed throughout the Northern Hemisphere. (6) About 15 species occur in North America. (7)

Juniper foliage may be scale-like, needle-like, or both, and it often has a distinctive odor that can be detected from quite a distance. (1) The juvenile leaves of a juniper are needle-like and the older leaves are scale-like. Mature leaves are awl-shaped, spreading, and arranged in pairs or in whorls of three. Some species have small, scale-like leaves, often bearing oil glands that are pressed closely to the rounded or four-angled branchlets. Male and female reproductive structures usually are borne on separate plants (6), so only female trees have fruit. (1) The reddish brown or bluish cones are fleshy and berrylike and often have a grayish, waxy covering. (6) Their fruits are soft and look like blue berries, and are round cones, but they are softer than most and they have a blue, red, or copper color. They mature in 1 to 3 seasons and contain 1 to 12 seeds, usually 3. (6)

There are three junipers native to the Pacific Northwest, but chances are good that western juniper is the

only one you will see. The other two, Rocky Mountain juniper and common juniper, do not typically grow together. (1)

## **Gin**

Dr. Sylvius (Frank de Ja Boe) invented gin in the Netherlands in 1650. It was originally intended as a remedy for kidney disorders. He used neutral grain spirits flavored with the oil of juniper. He called it genever after the French term genievre meaning juniper. It was being commercially produced by 1655 and English soldiers serving in the area took affection to the spirit. (3) The classiest of the clear liquors, gin is distilled from grain and flavored primarily with juniper berries. Geneve is the original Dutch version and has a very full flavored spirit. (5)

This evergreen produces fruits that are essential to gin's flavor. The acrid oil of juniper berries is added during distillation in what we like to think of as cocktail aromatherapy. The berries are placed in a tube above the gin vats. As the oil becomes vaporous, it melts with the gin. Producers of low quality gins merely dump juniper oil into the vats. (4)

During prohibition, bathtub gin was made in America by taking the poisons out of the denatured alcohol to recover the ethyl alcohol. This was then flavored with juniper, diluted, then bottled. There is a German Gin, which is referred to as Wacholder, or juniper. It is distilled with the juniper right in it instead of adding the flavoring afterwards, so the result is quite strong in flavor. Traditionally it is served chilled as a shot with a beer chaser. There are two methods for producing gin: distillation and rectifying (or the redistillation of distilled neutral grain). Flavoring of the neutral spirit is the most common means, and thus has lead to various debates as to whether gin is merely a flavored vodka. (3)

Gin is a flavored, distilled, colorless to pale yellow liquor made from purified spirits usually obtained from a grain mash and having the juniper berry as its principal flavoring ingredient. Netherlands gins, known as Hollands, Geneva, genever, or Schiedam, for a distilling center near Rotterdam, are made from a mash containing barley malt, fermented to make beer. The beer is distilled, producing spirits called malt wine, with 50-55 percent alcohol content by volume. This product is distilled again with juniper berries and other botanicals, producing a final product having alcoholic content of about 35 percent. English and American gins are distilled from malt wine purified to produce an almost neutral spirit, without flavor or aroma, having alcohol content of 90-94 percent by volume. This is reduced with distilled water, combined with the flavor agents and distilled and reduced again, producing a final product of 40-47 percent alcoholic content (80-94 U.S. proof). The dry gins have more added flavoring ingredients than Dutch types. Each producer employs a secret formula, including, in addition to the juniper berries, combinations of such botanicals as orris, angelica, and licorice roots, lemon and orange peels, cassia bark, caraway, coriander, cardamom, anise, and fennel. (8)

## **Other Uses**

Junipers have a great number of uses. The berries are good for digestive problems, gastrointestinal

infections, kidney and bladder problems, cramps, acne, and food flavoring; while the wood is used for furniture and other products.

Eastern red cedar (*J. virginiana*), actually a juniper, is the most widely distributed conifer in the Eastern United States. (7) It is an important ornamental and timber tree of eastern North America whose fragrant wood is made into cabinets, fence posts, and pencils. (6) Its wood contains oil that deters moths, and, for that reason, is often used to line chests. Rocky Mountain juniper is a closely related western species, but its multi-branched stems make its wood less valuable. The common juniper is the only species that occurs in both North America and Eurasia. Unlike most junipers, it produces only needlelike leaves. This usually bushy species grows on poor soils and is of little economic importance. Many junipers--both North American and Asian species--are grown as ornamentals for their dense evergreen foliage. They make effective border plants and screens, and can be trimmed into interesting shapes for formal gardens. (7)

Common juniper (*J. communis*), a sprawling shrub, is widely distributed on rocky soils throughout the Northern Hemisphere. The berry or fruit of this species is used to flavor foods. Many ornamental varieties have been developed. Juniper berries have a fragrant, spicy aroma, and a slightly bittersweet flavor. They are also used to season sauces and stuffing, in pickling meats, and to flavor liquor and bitters. (6)

Juniper oil has a fresh, warm, balsamic, woody pine needle odor. It is used with citrus room sprays and in masculine outdoorsy perfumes, aftershaves, and spicy colognes.

Oil of Juniper, distilled from the wood and leaves of several species, is used in perfumes and in medicines such as diuretics. It appears to have some effect as a digestive aid, both stimulating appetite as well as relieving flatulence. The diuretic effect of juniper is attributed to "water diuresis," or loss of water, that is a result of the plant's essential oil. Juniper is also used to treat loss of appetite, urinary tract infections, digestive disorders, and kidney and bladder stones. The oil works to lower blood pressure and acts as an anti-diuretic. (7)

The oils also help increase the flow of digestive fluids, improving digestion and eliminating gas and stomach cramping. As a diuretic, juniper berries are beneficial in reducing congestion, as well as treating asthma and colds. (11)

In the eastern Mediterranean, juniper is used in phytotherapy and cosmetics. Reported uses include baths to treat neurasthenic neurosis (an emotional disorder characterized by fatigue and lack of motivation) and scalp psoriasis in its tar form. Juniper has been used for centuries as a steam inhalant for bronchitis, and to control arthritis. (7)

The antiseptic, astringent, diuretic, and anti-inflammatory properties of juniper berries make them popular amongst herbalists who wish to treat to a variety of ailments. They are beneficial in treating infections, especially within the urinary tract, bladder, kidneys, and prostate. Their antiseptic properties

help remove waste and acidic toxins from the body, stimulating a fighting action against bacterial and yeast infections. (11)

The other species of *Juniperus* include the savin (*J. sabina*) of central Europe, Chinese juniper (*J. chinensis*) of eastern Asia, and creeping juniper (*J. horizontalis*) of eastern North America. All are popular ornamental species with many horticultural varieties. The wood of Spanish juniper (*J. thurifera*) of Spain and Portugal, and of Phoenician juniper (*J. phoenicea*) of the Mediterranean region, are sometimes burned as incense. (6)

## **Warnings**

Although junipers can be safely used for many purposes, there are some serious side effects that can occur when they are used medicinally. Pregnant women, for example, should be cautious in consuming juniper-containing products as they are likely to cause contractions of the uterus. Those suffering from kidney ailments should also avoid juniper-containing products as these can irritate the kidneys and bladder. (2)

Large or long-term doses can cause kidney damage, symptoms of which include diarrhea, intestinal and kidney pain, blood in urine and/or purple tinged urine, or an accelerated heartbeat. Epidermal contact with juniper tar may cause carcinogenic DNA damage in human tissue. (7)

## **Conclusion**

Never underestimate the power of a berry. From everyday to spiritual uses, Juniper berries have been used for such purposes as aromatherapy, perfumes, cosmetics, seasoning in foods, pickling for meats and flavoring for alcoholic beverages such as gin.

Truly, the juniper is an amazing tree, and one of the more beautiful treasures of nature.

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Last updated: 07-May-2000 / du