

## CLEMATIS FOR BENEFIT AND PLEASURE

The stone age people, who built pile dwellings by the Swiss lakes, were already using the stems of *Clematis vitalba* to make ropes. The very tough stems, several meters long make excellent binding material.

Provincial names for *Clematis vitalba*, “Waldstrick”, “Teufelszwirn” and “Hexenzwirn” in Bavaria and Austria, like the English “hag-rope” indicate this use. The Roman name “Viorna” for *Clematis vitalba* also has this etymological sense. It is said to mean binding osiers and derives from *viburna*, plural of *viburnum*. Relatives of *Clematis vitalba* which make good binding material are found in all parts of the world. According to Hj. Eichler (1858), stems of *C. multistriata* is thus used for binding on Lombok in the Southeast Asian archipelago. It is also confirmed elsewhere, in North America, South America and in Eastern Asia, that species closely related to *C. vitalba* belonging to the *Clematis*-section are used as ropes or osiers.

In Southern Europe the stems of *C. vitalba* are also used to make fish traps, for basketmaking and wicker-work. Even pipe-stems are made. These are practical and can be discarded when full of tobacco juice.

In the canton of Luzern in Switzerland the stems of *C. vitalba* were boiled to extract a bast from the inner yellow part of the bark. The bast was used to bind together bunches of the grass, *Nardus stricta*, which were put in wooden funnels for straining milk.

In this connection it may be mentioned that stems of *C. phanerophlebia* placed in the water and attached with stones are used to stun fish in New Guinea.

In Africa the dried roots of *C. scabiosifolia* (*Clematopsis scabiosifolia*) serve as tinder when making fire.

## MEDICINAL USE

The plant juice of many genera within the buttercup family, *Ranunculaceae*, to which *Clematis* also belongs, contains a substance which, used externally has a burning effect. It causes redness and draws blisters on the skin. This was known in antiquity, and ever since the fresh extract from three species growing in the wild in Southern Europe, *C. flammula*, *C. vitalba* and *C. recta*, has been called “Herbae Flammula Jovis” (herbs with the small fire of Jupiter).

The first two of the species mentioned have therefore – although their appearance is rather different – often been confused in medieval literature. Thus in **Herbarium des Apothekers Georg Oellinger zu Nürnberg** from 1553, the distinct and beautiful picture of *C. vitalba* has been labelled “Flammula Jovis repens”. However, the prelinnean botanists used this name to describe *C. flammula*. The same label has further been used erroneously for the picture in the small current edition, Salzburg 1949, of this unique hand-painted work.

Medieval European medicine used herbaceous parts of the above-mentioned species of *Clematis* topically as blistering plaster like Spanish fly and internally as sudorifics and diuretics. However, some 18th century physicians issued warnings against internal use.

Allioni in his **Flora Pedemontana** (1785) says of *C. flammula*, that “conscientious Physicians do not prescribe ‘Clematides’ any longer for internal use, even if it cannot be denied that it may be of some minor value as an expectorant in connection with a cold or as a diuretic”.

Dioskurides (about 50 A.D.) gives the following information about clematis – he is thought to be referring to *Clematis cirrhosa* – : “extract of seeds expels phlegm and gall; if you apply leaves they cure leprosy”.

In other parts of the world certain species of clematis were used for medicinal purposes both internally and externally among primitive peoples. Hj. Eichler (1958), talking about the S.E. Asian archipelago, says that in Java *C. leschenaultiana* relieves abdominal pain. The juice of crushed leaves of *C. javana* is used in Java and Mindanao for open wounds. On the Talud Islands stems of *C. papuasica* are wound around the body to cure hip pain, and on Malaita crushed leaves of this species are put on the head for fever. In Indo-China (Cambodia, Laos and Vietnam) a decoction of *C. smilacifolia* roots is used for stiffness from over-exertion.

Examples of species used in Chinese medicine are: *C. aethusifolia*, *C. hexapetala* and *C. intricata*. These can be bought as drugs in Northern China and Manchuria. An evergreen species, *C. armandi*, grown for decoration in Europe, is used in Chinese medicine. The whole plant produces a diuretic, used especially in the Hupeh and Szechuan provinces.

An ointment for skin disease is produced from the leaves of *C. dioica* in Central and South America. Decoctions of flowers and leaves are made for cosmetic use. In Mexico the roots of *C. grossa* are administered to horses for nausea.

The leaves of *C. hirsuta* are used in Senegal (Western Africa) to cure skin disease. In tropical Africa, coughing and migraine are cured by inhaling *C. villosa* (*Clematopsis scabiosifolia*). Crushed (and) dried leaves softened in warm water are used for rheumatism. Dried roots are used as tinder.

In Madagascar the local population pound leaves of *C. mauritiana* into a paste, and put it between 8–10 layers of linen. This compress is placed on the cheek for toothache. Care must be taken that liquid does not leak out onto the skin to cause irritation. (Commerson according to Lamarck 1786.)

### Refreshing clematis

Judging by researchers' observations and by plant names, clematis have been used as a stimulant in different parts of the world.

In the case of *Clematis vitalba*, dried parts of the stem have been smoked like cigarettes. They give a good puff and do not catch fire. In Switzerland they are called "Rauchholz" or "Räucherli"; in Germany (Württemberg, Tübingen) "Narrenholz". The reason for these names is (Hegi, **Flora von Mitteleuropa**) that boys would get dizzy when trying to smoke.

In English the provincial names "Smoking Cane", "Gypsies Bacca" and "Shepherd's Delight" indicate the same use.

In East Africa the Masai tribe use hand crushed leaves of *C. hirsuta* as snuff. It produces a strong smell, considered to 'clear the brain'.

Native Americans use the finely crushed leaves of *C. hirsutissima* as snuff. The Sapota Indians used the roots of this species to stimulate their exhausted horses.

On New Guinea the local people are said to give their dogs leaves of *C. papuasica* in their food so that they run faster.

A decoction of bark and stems of *C. forsteri* (*C. hexasepala*) is used in New Zealand as a mild stimulant.

According to Hegi the flowers of *C. vitalba* have been used as a substitute for tea.

### CLEMATIS AS A VEGETABLE

Clematis may also be used as a vegetable. In Russia and Italy the young shoots of *Clematis vitalba* are boiled in water and eaten like asparagus. They can also be cut into short pieces and pickled in vinegar like capers.

Dioskurides says that you can eat shoots of *C. cirrhosa* if you pickle them in salt together with garden cress, *Lepidium*.

### CLEMATIS FOR TRAITORS

It has already been mentioned that during antiquity the blistering properties of *C. flammula* and *C. vitalba* were well known. It is thus recounted that during the reign of Emperor Nero (54–68 A.D.) the beggars in Rome used these two species but perhaps preferably the first one to draw blisters on their hands. When stretching out their hands for alms they thereby aroused more compassion.

### THE FRAGRANCE OF CLEMATIS FLOWERS

Clematis are fragrant indeed!

It is common that the species give us more or less strong fragrances of a sensational kind. In the large-flowered hybrids this property is rare.

One would like to characterize fragrances and compare them to other well-known fragrant plants or substances. This task is very awkward. The sense of smell, like taste, is essentially subjective. What one person considers fragrant is unpleasant to another and the smoker usually has no perception of fragrance at all. The fragrant substances in flowers are also present in different concentrations. If they are faint, the perception is usually agreeable. If they are strong they may be sensed as disagreeable.

The fragrance of hawthorn and rowan comes from trimethylamine, and is usually found agreeable. If it becomes too strong it is unpleasant reminiscent of fish or herring brine. It is also known, that the fine fragrance of jasmine comes from a very low concentration of the substance skatol, the same substance which gives human faeces their unpleasant odor. Fragrance is often activated by heat and high humidity. This is apparently the case with fragrance from trimethylamine. We also know that some plants exude more fragrance in the evening when temperature is lower and humidity higher.

What complicates the matter further is the fact that the fragrance of individual plants of the same species may vary. The same person may not find any fragrance at all in some plants and may feel that others have a fragrance that he associates with a certain plant. In yet other plants he may find a completely different and perhaps more delicate perfume. On page 205 of her book, **Down the garden path** Beverly Nichols says: »The sweet fragrance of the flowers gives to the mind an amiability in which the most fanciful conceptions flower freely.«

In some instances this has been noticed and such plants with exclusive fragrance have been propagated through cuttings, producing fragrant clones, as for instance *C. montana* var. *rubens* ‘**Odorata**’ and ‘**Elisabeth**’.

In the journal *Phyton*, 1951, Prof. F. Widder in Graz dealt with these interesting matters in an article on “Der Duft der *Clematis vitalba*-Blüten” [The Scent of *Clematis vitalba* flowers]. Here he illustrates how the information in literature varies. During the 18th and early 19th century it was usually enough to write “Flores odorati”, flowers fragrant. Later the fragrance was often characterized. In Kerner’s **Pflanzenleben**, 1891, under “aminoide Düfte” (. . .) it says the fragrance of hawthorn repeats itself with small differences in the flowers of the pear (. . .) and *C. vitalba*. Knuth (1898) reiterates Kerner’s information and speaks of the hawthorn-like fragrance of the flowers coming from trimethylamine. Silva Tarouca-Schneider (1922 and 1931) and Bailey (1925) use the description “light fragrance of almond”. This later information is