

# Bearberry

**Botanical:** *Arctostaphylos Uva-Ursi*

**Family:** N.O. Ericaceae

## Synonyms

*Arbutus Uva-Ursi*. *Uva-Ursi*.

## Part Used

Leaves.

## Habitat

The Bearberry (*Arctostaphylos Uva-Ursi*, Sprengel), a small shrub, with decumbent, much branched, irregular stems and evergreen leaves, is distributed over the greater part of the Northern Hemisphere, being found in the northern latitudes and high mountains of Europe, Asia and America. In the British Isles, it is common in Scotland, on heaths and barren places in hilly districts, especially in the Highlands, and extends south as far as Yorkshire; it grows also on the hills of the north-west of Ireland. In America it is distributed throughout Canada and the United States as far south as New Jersey and Wisconsin.

It is very nearly related to the *Arbutus*, and was formerly assigned to the same genus - in *Green's Universal Herbal*, 1832, it will be found under the name *Arbutus Uva-Ursi* - but it differs from *Arbutus* in having a smooth berry with five one-seeded stones, whereas the *Arbutus* has a rough fruit, each cell of the ovary being four to five seeded.

The only other British species assigned to the genus, *Arctostaphylos*, the Black Bearberry (*A. alpina*), with black berries, found on barren mountains in northern Scotland, and not at all in England, is the badge of the clan of Ross.

The generic name, derived from the Greek, and the Latin specific name, *UvaUrsi*, mean the same: the Bear's grape, and may have been given to the plant, either from the notion that bears eat the fruit with relish, or from its very rough, unpleasant flavour, which might have been considered only fit for bears.

## Description

The much-branched trailing stems are short and woody, covered with a pale brown bark, scaling off in patches, and form thick masses, 1 to 2 feet long. The long shoots rise obliquely upward from the stems for a few inches and are covered with soft hairs

The evergreen leaves are of a leathery texture, from 1/2 inch to an inch long, like a spatula in form, being rounded at the apex and tapering gradually towards the base to a very short stalk or petiole. The margin is entire and slightly rolled back and the young leaves fringed with short hairs. The upper surface of the leaf is dark, shining

green, the veins deeply impressed, the lower side is of a paler green, with the veins prominent and forming a coarse network. The leaves have no distinctive odour, but they have a very astringent and somewhat bitter taste.

The pretty waxy-looking flowers are in small, closely-crowded, drooping clusters, three to fifteen flowers together, at the ends of the branches of the preceding year, appearing in early summer, May - June, before the young leaves. The corolla, about two-thirds inch across, is urn-shaped, reddish white or white with a red lip, transparent at the base, contracted at the mouth, which is divided into four to five short reflexed, blunt teeth, which are hairy within. There are ten stamens, with chocolate-brown, awned anthers. The berry, which ripens in autumn, is about the size of a small currant, very bright red, smooth and glossy, with a tough skin enclosing an insipid mealy pulp, with five one-seeded stones.

### **Parts Used Medicinally**

The dried leaves are the only part of the plant used in medicine. The British Pharmacopoeia directs that the leaves should be obtained only from indigenous plants. They should be collected in September and October, only green leaves being selected and dried by exposure to gentle heat.

Leaves must be gathered only in fine weather, in the morning, after the dew has dried, any stained and insect-eaten leaves being rejected. Drying may be done in warm, sunny weather out-of-doors, but in half-shade, as leaves dried in the shade retain their colour better than those dried in direct sun. They may be placed on wire sieves, or frames covered with wire or garden netting, at a height of 3 or 4 feet from the ground to ensure a current of air, and must be taken indoors to a dry room, or shed, before there is any risk of damp from dew or showers. The leaves should be spread in a single layer, preferably not touching, and may be turned during drying.

Failing sun, which in the case of leaves collected like the Bearberry in September and October cannot be relied on, any ordinary shed, fitted with racks and shelves can be used, provided it is ventilated near the roof and has a warm current of air, caused by a coke or anthracite stove. Empty glasshouses can readily be adapted into dryingsheds, especially if heated by pipes and the glass is shaded; ventilation is essential, and there must be no open tank in the house to cause steaming. For drying indoors, a warm sunny attic or loft may be employed, the window being left open by day, so that there is a current of air and the moist, hot air may escape: the door may also be left open. The leaves can be placed on coarse butter-cloth stented, i.e. if hooks are placed beneath the window and on the opposite wall, the buttercloth can be attached by rings sewn on each side of it, and hooked on so that it is stretched taut. The drying temperature should be from 70 to 100 degrees F.

All dried leaves should be packed away at once in wooden or tin boxes, in a dry place as otherwise they re-absorb moisture from the air.

Dried Bearberry leaves are usually quite smooth, and entirely free from the hairs that are present on the margins of the growing leaves and on the foot-stalks, which drop off during the drying process.

The commercial drug frequently consists of the entire plants, and therefore contains a large quantity of stems, but the latter should not be present, according to the official definition of the United States Pharmacopoeia, in greater amount than 5 per cent.

The leaves of other plants have been mistaken for Bearberry leaves, notably those of the Cowberry (*Vaccinium Vitis-idaea*) and of the Box (*Buxus sempervirens*), and have occasionally been used to adulterate the drug, but Bearberry leaves are readily distinguished by the characteristics given, viz. the spatulate outline, entire margin and rounded apex. Those of the Box have a notch cut out at the apex (emarginate) and have the epidermis loose and separable on the under surface of the leaf, and are, moreover, quite devoid of astringency. The leaves of the Cowberry may be distinguished by the glandular brown dots scattered over their under surface and the minute teeth on their margins. They have only a very slight astringent taste.

### **Constituents**

The chief constituent of Bearberry leaves is a crystallizable glucoside named Arbutin. Other constituents are methyl-arbutin, ericolin (an ill-defined glucoside), ursone (a crystalline substance of resinous character), gallic acid, ellagic acid, a yellow colouring principle resembling quercetin, and probably also myricetin. Tannin is present to the extent of 6 to 7 per cent. On incineration, the leaves yield about 3 per cent. of ash.

### **Medicinal Action and Uses**

In consequence of the powerful astringency of the leaves, *Uva-Ursi* has a place not only in all the old herbals, but also in the modern Pharmacopoeias. There are records that it was used in the thirteenth century by the Welsh 'Physicians of Myddfai.' It was described by Clusius in 1601, and recommended for medicinal use in 1763 by Gerhard of Berlin and others. It had a place in the London Pharmacopoeia for the first time in 1788, though was probably in use long before. It is official in nearly all Pharmacopoeias, some of which use the name Arbutus.

The usual form of administration is in the form of an infusion, which has a soothing as well as an astringent effect and marked diuretic action. Of great value in diseases of the bladder and kidneys, strengthening and imparting tone to the urinary passages. The diuretic action is due to the glucoside Arbutin, which is largely absorbed unchanged and is excreted by the kidneys. During its excretion, Arbutin exercises an antiseptic effect on the urinary mucous membrane: Bearberry leaves are, therefore, used in inflammatory diseases of the urinary tract, urethritis, cystitis, etc.

Besides the simple infusion (1 OZ. of the leaves to 1 pint of boiling water), the combination of 1/2 oz. each of *Uva-Ursi*, Poplar Bark and Marshmallow root, infused in 1 pint of water for 20 minutes is used with advantage.

The tannin in the leaves is so abundant that they have been used for tanning leather in Sweden and Russia.

An ash-coloured dye is said to be obtained from the plant in Scandinavian countries.

The berries are only of use as food for grouse. Cattle, however, avoid the plant.

### **Allied Species**

Manzanita, the leaves of *A. glauca* from California, are employed like *Uva-Ursi*.

The leaves of *A. polifolia* from Mexico and *A. tomentosa* (madrona) are also used in medicine.