



## Lichen

### *Usnea barbata* & other species

Lichen of the *Usnea* species, belong to the Parmeliaceae family and they grow all over the world. The most commonly known, as a medicinal herb is *Usnea barbata*, which is indigenous to the northern hemisphere; there are though, about 600 other related species indigenous to other places, which grow world-wide. Some of these more well-known species include: *Usnea australis*, *U. dasypoga*, *U. florida*, *U. hirta*, *U. rubicunda*, *U. rubiginea*, *U. scabrida*, *U. subfloridana*. There are 28 species endemic to New Zealand. The naming of these species is still



being determined, e.g. *Usnea longissima* was changed to *Dolichousnea longissima* by taxonomists.

Lichens are a symbiosis; of fungus and algae and *Usnea* generally grow on the bark of trees, often dead trees, resembling wispy grey-green hair, hence its common names, which include; old man's beard, woman's long hair, beard lichen, trees' dandruff, bear's beard, beard moss, oak moss and tree moss; sometimes called Spanish moss, but that is another family; *Tillandsia usneoides*. Song Luo is the Chinese common name for *Usnea longissima*.

(*Usnea*: Melissa Hutchison)

*Usnea barbata* is a soft greyish green, other species are similar. Identification is confirmed if there is an 'internal cord' or cortex, running from the attachment point, down into the strands; when wet, it stretches like elastic. There are other lichens which look similar; this is the '*Usnea* key signature,' as with chickweed (*Stellaria media*).

They look the pretty much the same right through the year (unlike many other lichens), apart from the orange hue in summer to autumn – this indicates higher levels of usnic acid, making it an ideal time to harvest it.

**Cultivation:** This lichen grows where it likes! The spores land on tree branches and if it is a 'suitable environment,' it will grow, attached to tree branches, though, it is slow growing. Usually they grow hanging down, hence the name 'old man's beard' etc (there are many differing lichens and mosses called this name though). The more conducive the climate the better and longer they grow; from 2-3 cm up to 20 cm in ideal environments. Some of the trees *Usnea* prefers to grow in are; fruit trees (if not sprayed), oaks, pines, Douglas fir and other forest trees. Lichens are parasitic (they live off the host tree); this can be detrimental to the host. Air pollution is its enemy; *Usnea* species are particularly sensitive to chemicals, especially to sulphur dioxide.

**Harvesting:** If harvesting living *Usnea*, it is advised to 'snip off' the thallus (growing parts) and leave some, to regrow, rather than tearing off the whole plant. Fallen branches with *Usnea* on can often be found, after windy weather, harvest from these.

**Character:** Bitter, neutral, cooling, drying and tonifying.

(*Usnea rubicunda*: Karina Hiltermann)

**Constituents:** Polysaccharides, anthraquinones, a wide range of amino acids, mucilage, and carotene, vitamins; including high levels of Vitamin C. Acids, including usnic acid, fatty acids. Even more specifically, usnic acid, vulpinic acid, protolichesterinic acid, a number of orcinol derivatives, longissiminone A and B, glutinol, ethyl hematommate, friedelin, beta-amyrin, beta-sitosterol, methyl-2,4-dihydroxy-3,6-dimethylbenzoate, barbatinic acid, 4-O-demethylbarbatic acid, zeorin, ethyl orsellinate, 3-beta-hydroxy-glutin-5-ene, oleanolic acid, methylorsellinate, 4-methyl-2,6-dihydroxy-benzaldehyde, dibenzofuran, anthraquinone, hirtusneanoside, menegazziaic acid, stictic acid, glyceryl trilinolate, numerous polysaccharides including isolichenin, raffinose, numerous phenolic compounds, usnaric acid, thamnolic acid,



lobaric acid, stictinic acid, evernic acid, diffractaic acid, and ascorbic acid (vitamin C). It is the usnic acid that gives the extraction the 'orange colour.' In the autumn generally the usnic acid levels are at their highest, making this the best time to make your tincture; *Usnea* generally has a slightly 'rusty look' indicating this.

**Therapeutic actions:** Anti-fungal, antibiotic, anti-bacterial (gram+), inhibitor of biofilm formation, antiviral, antiseptic, mucous membrane tonic, antiinflammatory, antioxidant, expectorant, demulcent, wound healer, laxative, digestive stimulant, immunostimulant, and immune system tonic. Analgesic, antiparasitic, antiprotozoal, antineoplastic, anti-proliferative, antimitotic and antipyretic. As a bonus, for treating *Helicobacter pylori*, *Usnea* potentiates the drug clarithromycin's function.

**Part/s Used:** The aerial parts. Harvest at any time of the year though in autumn are the highest levels of Usnic acid, which is a major therapeutic constituent.

**Medicinal uses:** For internal and external treatments; a very useful herb for treating respiratory (upper and lower) and urinary tract infections, colds and flu's and respiratory infections including tuberculosis (TB), bacterial infections (internal and external) e.g. impetigo, ringworm, athlete's foot and ulcerations, acne, cellulitis, conjunctivitis, mastitis, sore and strep throats, sinus infections. Digestive problems; gastric ulcers, diarrhoea, dysentery, 'digestive weakness/atony.' Fungal infections, including candida, tinea. For trichomonas, SLE, also, to assist healing for burns and after plastic surgery. It can be used a dressing for wounds if no sterile dressings are available. Parasite and protozoal infestations, even has been effective for treating infection in fish raised in ponds or aquariums. The German Commission E has approved *Usnea* for 'mild inflammation of the oral pharyngeal mucosa'. In 'Hager's Handbook, a German reference for medicinal plants, *Usnea* is recorded as being an effective treatment for mucous membrane conditions and gastric dysfunctions, including stomach weakness, diarrhoea, dysentery, and haemorrhage.

**Dosage:** Infusions or decoctions. Tincture up to 70 mls per week. For vaginal infections, use as a douche.

(*Usnea, Lake Derek: Karina Hilterman*)

**Caution:** Internal use not advised during pregnancy, and as safety levels for breastfeeding are not certain, ingestion is not recommended. It may cause contact dermatitis for some.

**Other Uses:** *Usnea* species have long been used for dyeing; depending on the mordant/s used, the colours which can be obtained include; tan, yellow, orange, blue, green or purple. In the cosmetic industry, *Usnea barbata* has been used for following uses; deodorant, preservative and both anti-fungal and antimicrobial properties.

**History & Mystery:** *Usnea* species have an ancient histories of use, through many cultures. There is recorded use of it for thousands of years in the Chinese, Greek and Egyptian traditions, utilising the species endemic to those lands. The North American Natives used it for a wide range of conditions. The Greek physician Hippocrates prescribed *Usnea* for treating uterine dysfunctions.

References: Optimal Rx technical sheet, prepared by Kristin Gilmour.

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**Advisory Note:** This text is given as a general guidance. If any adverse reactions occur or symptoms persist, please contact a qualified medical herbalist or medical doctor immediately.

