

## CONFREY

**Scientific name:** *Symphytum officinale* Linné<sup>(1)</sup>.

**Family:** Boraginaceae<sup>(2,6)</sup>.

**Popular names:** Ass Ear, Bruisewort, Boneset, Consound, Knitbone, Slippery Root, Knitback, Consolida, Gum Plant<sup>(1, 2)</sup>, Black Root, Healing, HerbSalsify, Wallwort<sup>(1)</sup>, Commom Comfrey, yalluc<sup>(2)</sup>.

**Used parts:** Root and leaves<sup>(1,2)</sup>.

**Botanical characteristics:** The plant grows from 30 to 120 cm in height. The root is fusiform, branched, black on the outside and white on the inside. The stem is erect and stiff-haired. The leaves are wrinkly and roughly pubescent; the lower ones and the basal ones are ovate-lanceolate and pulled together in the petiole; the upper ones are lanceolate and broad. The flowers are dull purple or violet. They are arranged in crowded, apical, 2-rayed hanging cymes. The calyx is fused and has 5 tips. The corolla is also fused and is cylindrical-campanulate with a pentangular tube and 5 tipped border. The tips are revolute and there are 5 awlshaped scales in the mouth of the tube. The scales close together in a clavate form and have a glandular tipped margin. There are 5 stamens and 1 style. The ovary is 4 valved. The fruit consists of 4 smooth, glossy nutlets<sup>(1)</sup>.

**Habitat:** The plant is indigenous to Europe and temperate Asia<sup>(1,2)</sup>, and is naturalized in the U.S<sup>(1)</sup>.

**Chemical composition:** Allantoin, mucilages (fructans), triterpene saponins (symphytoide A), tannins<sup>(1, 2)</sup>, salicylic acid, pyrrolizidine alkaloids (echinatine, lycopsamine, 7-acetyl lycopsamine, echimidine, lasiocarpine, symphytine, intermedine, symveridine)<sup>(1)</sup>, antioxidant vitamins, vitamin B12, protein<sup>(3)</sup>.

**Indications:** Internally, the root has been used for gastritis and gastrointestinal ulcers<sup>(1, 2, 6)</sup>. The root has been used externally as a mouthwash and gargle form gum disease, pharyngitis, and strep throat. In folk medicine, the root of the plant has been used for rheumatism, pleuritis, and as an anti-diarrheal agent<sup>(1)</sup>.

**Dose:**

- External use: the daily dosage should not exceed 1 mcg of pyrrolizidine alkaloids for external preparations calculated with 5 to 7% drug, maximum 1 ppm/gm for commercial pharmaceutical preparations. The drug should be used for a maximum of 4 weeks<sup>(1)</sup>.
- Tea: when using the infusion, take 1 cup 2 to 3 times daily, but not for a long duration<sup>(1)</sup>.
- Typical daily dose of the leaf range from 5 to 30 g, but daily doses of the root are generally lower (0.5 to 10.0 g)<sup>(3)</sup>.

**Others informations:**

- Internal administration of the drug, due to the presence of pyrrolizidine alkaloids, has resulted in hepatocyte membrane injury with hemorrhagic necrosis and loss of microvilli<sup>(1,4)</sup>.
- Comfrey, occasionally consumed by man and livestock, contains pyrrolizidine alkaloids and has been shown to be carcinogenic<sup>(5)</sup>.

**References:**

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3. RODE, D. Comfrey toxicity revisited. **TRENDS in Pharmacological Sciences**, v. 23, n. 11, p.497-499, 2002.
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