

Arnica

Wildcrafting and Cultivation

The *Arnica* genus



Arnica is a genus in the Compositae family. There are around 30 recognized species of *Arnica* found around the northern hemisphere, primarily in montane and subalpine habitats.

"Perennial herbs, glandular or aromatic, from a rhizome or caudex and with fibrous roots. 30 species circumboreal, but running south in the mountains. Some species apparently of hybrid origin and confused; some with apomixis." Philip A. Munz in *A California Flora*.

D. J. Mabberley in his authoritative *The Plant-Book* which lists all genera of the world, says of Arnica:

"*Arnica* L. Compositae. 32 N temp. & arctic (Eur 2). Cult. orn. incl. *A. montana* L. (arnica, mountain tobacco, C & N Eur.) - root & capitula medicinal. (tincture of a.), though *A. fulgens* Pursh (N Am.) more efficacious."

PDR for Herbal Medicines (Physician's Desk Reference) Here are a few sentences from its herbal monograph for *Arnica montana*.

"Production: Arnica flower consists of the fresh or dried inflorescence of *Arnica montana* or *Arnica chamissonis*. The flower should be dried quickly at 45 degrees C.

Other names: Mountain Tobacco, Leopard's Bane, Wolfsbane, Arnica Flowers, Arnica Root.

Habitat: Found in Europe from Scandinavia to southern Europe. Also found in southern Russia and central Asia."

Arnica montana is native to north and central Europe. It is not native to Montana or North America,

Arnica [*A. montana*] is a mountain wildflower that grows throughout Europe in acidic, humus-rich, moist but well-drained soils. The plant forms a low-lying rosette of oval leaves from which a leafy stem with one or more yellow flowers arises. While it can be grown as an attractive, aromatic plant in a rock garden, arnica does not lend itself to commercial cultivation.

The numbers of this plant are declining in the wild; it is a protected species in Germany and several other

European countries. In Germany and Russia, *Arnica chamissonis*, a native of the Rocky Mountains, is cultivated as a replacement for *A. montana*. In the United States, loss of supply of European arnica during the Second World War, turned attention to our 30 native species. Four of these are currently accepted as effective substitutes for European arnica. These are *A. chamissonis*, *A. fulgens*, *A. sororia*, and *A. cordifolia*.

Egg-yolk-yellow arnica flowers are harvested while in full bloom and dried quickly at 105 to 110 degrees to prevent spoilage. The active agents in arnica flowers are believed to be the essential oil, flavonoids and the sesquiterpene lactones, especially helenalin. Arnica is used externally to soothe bumps, bruises and sore muscles and joints. It is potentially toxic if taken internally other than as a homeopathic remedy.

Quality Tips

Due to the shortage of supply, adulteration of arnica is frequent. The most common adulterant is *Heterotheca inuloides*, also known as Mexican arnica. Check the origin and the botanical name when buying arnica. *A. montana* comes from Europe. Other arnica come from North America except for *A. chamissonis* which may be cultivated in Europe or Asia. Avoid any arnica from Mexico.

The text between the dotted lines was downloaded from the internet 1/19/02.

Some of my herb buyers want just flowerheads. Others want the whole aerial flowering plant - leaves, stems and flowers. Most of my buyers want the arnica fresh but others prefer it dried. So I sell it both ways.

Currently I offer *Arnica cordifolia* wildcrafted and *Arnica chamissonis* organically grown. I am also building up my planting of *Arnica montana* and will be able to offer it's flowers in 2003. I have harvested *Arnica fulgens* and made liniment (alcoholic extracts) with it. *Arnica fulgens* is a species from dry meadows at lower elevations than *A. cordifolia*. Sagebrush (*Artemisia tridentata*) is one of *A. fulgens*' plant associates. Because of its sunny, dry habitat, it may be that *A. fulgens* is more potent, pound for pound, than arnica species from wetter habitats. This is not unusual that levels of aromatic constituents within genera are higher in species from hotter, dryer habitats.

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A few thoughts on wildcrafting Arnica

A report from personal experience.

Arnica is one of my favorite herbs to wildcraft for a number of reasons. 1) It is a very cheery plant with its bright golden-yellow flowers. I usually pick it in clear weather and the sunlight on arnica-covered mountainsides is a beautiful sight. 2) It is a relatively easy botanical to gather, since the flowers do not weigh much. It does call for a lot of walking and bending though, and the back can feel it after a day of picking. 3) Arnica is one of my top money earners both as a wildcrafted and cultivated crop. 4) Arnica is one of the most effective plant medicines I personally use on myself and on friends. It is the herb of choice for sprains and is very useful for any bruises (where the skin isn't broken), as well as for swollen joints, sore muscles, sore backs, strained ligaments and tendons. Basically I use it for almost any pain associated with muscles, joints and bones out of place. In most cases it works almost instantaneously to relieve pain. I seldom go anywhere without a bottle of my arnica liniment. I prefer arnica liniment to infused oil for several reasons: 1) Alcohol is a better extractant, 2) alcohol is a better preservative, 3) liniment is absorbed better than oil as oil clogs the pores, 4) liniment is less messy than oil.

The *Arnica* species mentioned most often in European herbals is *Arnica montana*. It is a European species not found in North America. A few herb growers are just starting to grow this species in the US. There are 13 species of *Arnica* native to the Pacific Northwest. The species I am most familiar with are *Arnica cordifolia* (heart-leaf arnica), *A. latifolia* (mountain arnica) and *A. amplexicaulus* (streambank arnica, clasping arnica) and *A. fulgens* (orange arnica, hillside arnica). *Arnica cordifolia* is my preferred species to pick since it has the largest flowers of our native species, and also because it has the most established reputation for medicinal efficacy of any of our native arnicas. Two other Northwest species encountered commercially are *A. mollis* (hairy arnica) and *A. chamissonis* (meadow arnica).

Arnica cordifolia

Arnica cordifolia is a widespread cordilleran species of the Western US which is common in almost every montane forest type. *Arnica cordifolia* is found from Alaska, Alberta and south Dakota south to New Mexico and California. I have not found it west of the Cascades, but encounter it frequently in the mountains of eastern Washington, Idaho and Montana. In some forests it makes only a scattered showing, but in others it

is one of the most common ground cover plants. In the best stands in good bloom years, the hillsides literally glow with the massed yellow flowers.

It is noteworthy (from a wildcrafters viewpoint) that particular stands flower erratically. I know of some areas where there has been excellent flowering for three years in a row. Other stands have a great year followed by a poor year. Some stands I have not seen flower well yet. Wetter and warmer than average years give the best blooms. Dry years greatly reduces flowering although few plants actually die. Fires can trigger off especially great flowering events. Usually the 2nd and 3rd year after fires. Probably due to an increase of nutrients and sunlight and a reduction in competition from less fire-adapted species. I continue to monitor the same patches every year.

Arnicas are perennials which reproduce vegetatively by below-ground, lateral runners/rhizomes and by seed. Seed is wind disseminated with a parachute of fluff. Light fires leave many root systems intact. As it is, arnicas flower early in the year and ripen seed within weeks of flowering. The upper parts of the plant then die back during the long dry summers of the interior mountains. So the season when forest fires most typically would happen are when the plants are in a state of dormancy. Arnica most likely also keeps a seed bank in the soil in case of more drastic fire events. It's wind-disseminated seeds means it can re-establish itself quickly into severe burns from nearby fire refugias.

The whole plants including roots have been used in making medicinal preparations. Most herbal companies in the US have been using only the flowers. This may be changing as some of my buyers now want the whole aboveground plant when in full bloom, i.e. the flowers, stems and leaves. They tell me that the stems and leaves contain useful constituents not found in the flowers, so the whole plant may be more efficacious than the flowers alone. I would love to see more lab test results on this matter. In the meantime, I am quite happy to supply whole aboveground plants, because it is easier to collect a given weight of whole plants vs. just flowers. Thus I can offer whole aboveground plants at a lower price than for flowers alone. No one has asked me for plants with roots yet. The roots are also said to have medicinal properties.

In terms of sustainability I reckon that harvesting the same poundage of whole aboveground plants is less impact on the populations than picking flowers alone. This is due to the smaller reduction in seed production. My sustainability guidelines are to harvest no more than 25% of the flowers in a stand. Generally I take far less.

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When it comes to harvesting whole aboveground plants I would only take a maximum of 5% of the flowering plants in a stand. Since commonly only 10% to 50% of the plants are flowering in any given year that means I am only impacting 1% to 2% of the plants in a stand.

I do not recommend commercially wildcrafting arnica in areas or stands where there is not an abundance of arnica.

As a result of arnica's effective means of reproduction and due to the fact that it is a common and widespread species, I see little potential for overharvesting *Arnica cordifolia*.

Communication system of hoots between pickers in mountainous terrain.

1 hoot = hello, where are you?

1 hoot reply = here I am.

2 hoots = come here for a conference.

1 long hoot = come over here for gravy picking.

3 hoots = Help! emergency.

Other combinations may be used.

Arnica chamissonis Meadow Arnica, Leafy Arnica

Arnica chamissonis' range is Alaska south to Sierra Nevada and San Bernardino Mts. Its habitat is montane coniferous forests. It is the *Arnica* species second most often mentioned in herbal books (*Arnica montana* being mentioned the most).

The following information is from *Flora of the Pacific Northwest*. The taxonomic key information is not included here. 14 *Arnica* species are listed in this regional flora.

Arnica chamissonis. Meadows and wet places. A cordilleran species. 4 varieties are found in the range of *Flora of the Pacific Northwest*.

Arnica chamissonis ssp. *chamissonis* var. *interior*. s to c Wn and w.c. Mont, ours mostly transitional to ssp. *foliosa*.

Arnica chamissonis spp. *foliosa*. w US and adj Can.

Arnica chamissonis spp. *foliosa* var. *incana*. Herbage conspicuously silvery-tomentose; ecotype of very wet places or in water, common from Cas of s Wn to Cal, occ e.

b2 Herbage less densely hairy, scarcely silvery; moist to occ dry or very wet places

Arnica chamissonis spp. *foliosa* var. *maguirei*. Pls very robust, to 1 m, the lvs to 6 or 8 cm wide; local about Lower St. Mary Lake, GNP (Glacier National Park)

Arnica chamissonis spp. *foliosa* var. *foliosa*. Pls less robust and with narrower lvs seldom > 4 cm wide; widespread in our range.

A *California Flora* lists 18 *Arnica* species in its range.

3 varieties of *Arnica chamissonis* spp. *foliosa* are recognizable in California, but it is stated that the species is exceedingly variable in California.

Arnica chamissonis spp. *foliosa* var. *incana*.

Arnica chamissonis spp. *foliosa* var. *bernardina*

Arnica chamissonis spp. *foliosa* var. *Jepsoniana*

Quote from *The New Encyclopedia of Herbs & Their Uses*, 2nd ed., 2001, Deni Bown.

"American species, such as *A. chamissonis* and *A. cordifolia*, are easier to grow and equally effective" [as *Arnica montana*].

Cautions:

Arnica is for external use only. It is considered poisonous internally in the U.S. (although in Europe it is prescribed internally by professional herbalists).

Dried arnica has lung-irritating hairs and people working with dried arnica should wear a respirator of some kind. This includes when cleaning seeds.



Illustration from
Medicinal Plants of the Pacific West.