

The Amazing Dandelion (And Friends)

By Lyndon Penner

The common dandelion (*Taraxacum officinale*) is one of the most easily recognized and most hated plants in the world. Originally native to cold parts of Europe and Asia, it has now made its way around the globe and while it does not generally fare well in the tropics, it has made itself quite at home in nearly every place that it has arrived. The common name is a corruption of the French *dente de lion*, meaning “the teeth of the lion”. It is a reference to the large, tooth-like serrations in the plant’s leaves. (The French also called it *pis en lit*, literally “wet the bed”, a reference to its diuretic abilities.)

The first part of the scientific name for this plant comes from the Latin word *taraxis*, meaning to move or disturb. It is a reference to the dandelion’s ability to rapidly colonize and inhabit disturbed ground. The second part, *officinale*, means official and refers to medicinal use. All down through the ages, dandelions have been prized medicinally and have also been valued as food. It is believed that dandelions were deliberately introduced to North America for this reason. Extremely nutritious, the dandelion is high in iron, potassium, and vitamins A, B, and C. Their flavour is generally bitter, and they are usually blanched (deprived of sunlight for a couple of weeks) in order to make them tastier and more tender. The buds can be fried in butter and eaten like mushrooms. The flowers have been used to make beautiful golden jellies as well as wine. The roots have been roasted and ground as a substitute for coffee. The leaves are used in salads and sandwiches and as an important spring green in many parts of the world. Dandelion honey is also highly prized. If you are an artist, you may want to use dandelion blossoms to make your own beautiful yellow dyes.

Medically speaking, dandelions have long been used to treat liver and kidney problems, including jaundice and cirrhosis. They have also been used to treat eczema and other skin issues and to improve digestion and increase the appetite.

Dandelions are herbaceous perennials and if left to their own devices, they can live as long as 10 years. In that time period, they will produce thousands of seeds. They grow from deep taproots and produce basal rosettes of foliage and their flower stems are hollow, bleeding a white milky juice when broken or cut. The brilliant yellow flowers are actually made up of many tiny florets and are rich sources of nectar and pollen. They appear most abundantly in late spring and early summer, but they can bloom at almost any time. Dandelions do not send out runners or shoots but they can and do reproduce asexually. Through a process called *apomixis*, dandelions are quite capable of producing viable seed with no cross fertilization. All of the offspring are genetically identical to the parent plant. This is an astonishing feat no matter how you look at it. The resulting offspring are also capable of apomixis. Thus an entire yard can be populated with dandelions even if you only start out with a single plant!

The Amazing Dandelion (And Friends)

By Lyndon Penner

Dandelions do not like shade but other than that they are extremely adaptable. They will grow in literally any soil and can handle moist or dry conditions. If given options, dandelions like nitrogen-rich soil that is well drained and slightly moist but they aren't fussy. Taproots on very old plants become leathery, twisted and very large. They have no pest or disease issues and can regenerate rapidly after being grazed or trampled. Some mildews may occasionally cause issues and root aphids sometimes bother them but dandelions are more or less unstoppable.

Dandelion blossoms will open and close with the sun and usually do not open on cloudy days. 93 different species of insects have been observed to visit and pollinate the blossoms, and they are especially important to both honeybees and bumblebees. Dandelions are also a significant food source for both black bears and grizzly bears, who eat the blossoms, the new growth, and the roots. As the blossoms give way to the familiar "puffball" seedheads, the stems lengthen in order to better take advantage of passing breezes and winds. The seeds germinate very quickly if conditions suit them but generally germinate better if they are exposed to light. Studies have shown that the seeds are not viable for very long but in a good growing season, the average dandelion produces about 2000 seeds. There are usually between 50 and 175 seeds produced per blossom.

Literally billions of dollars are spent annually on trying to control dandelions in lawns, golf courses, and along boulevards. There is an entire industry that exists just to accommodate people poisoning, spraying, and otherwise attacking dandelions. People who cut their lawn too short are actually helping dandelions to get a foothold because what this does is it allows in more light for the seeds to germinate better. Dandelions love nutrients and overuse of fertilizers also appeals to them. Their deep taproots exist for a reason- they are meant to suck up and pull nutrients from deep in the ground where other plants cannot reach them.

Incidentally, this can actually be beneficial (in small doses) for your garden. 2-4-D and RoundUp are often used to control dandelions and these products are effective, but not necessarily something you want to welcome in your yard. I am always horrified to see people spraying dandelions with poison, particularly when they are in bloom. They have become such an important source of pollen for bees that I think surely there must be some sort of compromise. Can we not at least wait until they are finished blooming to go after them? Can we not make peace with the dandelion? It has 40 million years of evolution on its side and it's not going anywhere. How much time, energy, money, and research has gone into trying to control dandelions? Could those resources not be better directed to finding a cure for breast cancer? To finding a way to fight fibromyalgia or HIV? To developing crops for the poorest of the earth's nations or getting water to people on the globe's driest countries? When one considers the enormity of the fight against dandelions and the amount of money spent doing so, it is staggering.

The Amazing Dandelion (And Friends)

By Lyndon Penner

Dandelions have a bad reputation but they are certainly not the worst plant out there. I think better gardening and landscaping practices would mean they were less of a problem in our yards and gardens.

There are even a few kinds of dandelion that you might want to consider deliberately cultivating. There are officially about 60 recognized species in this genus, while botanists have further divided it into about 200 sub-groups and geographical variations. A few that are especially noteworthy for one reason or another include the following:

Taraxacum albidum- A beautiful Japanese species with white flowers.

Taraxacum californicum- The California dandelion is an endangered species endemic to the San Bernardino mountains of California. It grows in high alpine meadows and has paler flowers than the common dandelion and distinctly red veins. It also hybridizes with the common dandelion, and it is in danger of hybridizing itself out of existence.

Taraxacum pankhurstianum- Only discovered in 2012, this is officially one of the rarest plants in the UK.

From St. Kilda's Island in the Hebrides, this species was named for Richard Pankhurst, a much loved and now retired botanist with the Edinburgh Botanic Garden. This is a very small species that is adapted to a very short growing season with distinctly hairy bracts covering the buds. No one expected Scotland to suddenly produce a tiny and very pretty new dandelion, but here it is.

Taraxacum pseudoroseum- Only growing 6" tall, this species has large, fluffy blooms of pale pink with yellowish centers. It is occasionally cultivated.

Taraxacum rubrifolium- Resembles the common dandelion but with gorgeous deep burgundy foliage. The golden yellow blooms contrast smashingly with the leaves.

There are a number of dandelion relatives that are mostly known as weeds but a few have been cultivated or appreciated as wildflowers. Perhaps the most famous are the appropriately named false dandelions (*Agoseris*), and there is a smaller genus called *Microseris* which I absolutely cannot tell apart (other than size) from its larger counterpart. All of the false dandelions are native to North and South America and they grow in a similar fashion to true dandelions- they are perennials growing from a basal rosette and their flowers are very similar in appearance to true dandelions but there are some important differences.

There are about 15 species of *Agoseris*, the best known of which is probably the pale false dandelion, *Agoseris glauca*. It generally flowers in July or August and produces beautiful golden flowers on a single stem. The blooms are usually about an inch wide but may be up to 2" wide. It favours disturbed ground and prefers a site with abundant moisture but is quite drought resistant when it needs to be.

The Amazing Dandelion (And Friends)

By Lyndon Penner

Agoseris aurantiaca, the orange false dandelion is common in Banff National Park and can be found throughout the Rocky Mountains. It has gorgeous, rich orange blooms and can handle wet or dry conditions. You could be forgiven for wanting to cultivate it.

Pink false dandelion (*Agoseris lackschewitzii*) was only discovered and officially named in the 1970's. It was named for its discoverer, Klaus Lackschewitz, of the University of Montana. Born in 1911 in what is now Latvia, Klaus was an avid gardener, botanist, and horticulturalist who greatly contributed to the knowledge of native plants of the Rockies after he immigrated to the United States. He had a great passion for plants of the mountains and wrote several field guides to plants of Montana and collected many specimens there that had never been recorded in that state. The pink false dandelion grows in the high mountain meadows of southeastern BC, southwestern Alberta, as well as Idaho and Montana. How this plant went undetected for so long is a mystery. *A. aurantiaca* is known to sometimes blush pink when the flowers are aging and this may have contributed to a case of mistaken identity. Klaus insisted there was a hitherto unknown species with solidly pink flowers and not only was he proven correct, the plant was subsequently named for him. It reaches the peak of its bloom in July and grows abundantly in a number of high mountain meadows in Banff National Park. It often grows in large numbers where conditions suit it.

Like the true dandelions, false dandelions have long been used medicinally. The Navajo also used these plants to repel witchcraft.

Chicory (*Cichorium intybus*) is native to Europe but now widely naturalized in China, North America and Australia. Although there are 10 species in this genus, only this one and *C. endivia* (Belgian endive) are cultivated.

Growing 2-5 ft. tall, chicory is a large, tap-rooted perennial that is occasionally known as blue dandelion. The flowers are indeed a gorgeous shade of blue or pale purple, but on rare occasions they can also be white or pink. It has been extensively cultivated as food for centuries despite (or perhaps because of) its strongly bitter flavour. High in vitamins A, B, C, and K, chicory leaves are used in salads and as a vegetable while the root is often roasted and ground to be used as a coffee substitute. The blossoms are sometimes candied. Flowers appear from June through September and the seeds germinate in about a week. Historically the seeds have been added to love potions. Although chicory is highly adaptable, it is best in a sunny site with fertile soil. It can become weedy but is sometimes grown as an ornamental in gardens.

Crepis is a genus of about 200 species of mostly insignificant weeds with a few exceptions. The Latin name comes from the Greek word *Krepis*, meaning boot or slipper. How this applies to the plant has long ago been

The Amazing Dandelion (And Friends)

By Lyndon Penner

forgotten. Very similar to *Taraxacum*, the main difference is that this genus produces more than one flower per stem. All are easy to raise from seed. Many of these plants are known as hawk's beard or hawk's bit but they should not be confused with *Hieracium*, which shares a common name.

Crepis incana grows about 9" tall and flowers mainly in July. The flowers are a brilliant, showy pink and float above greyish-green foliage. It is a profuse bloomer and was highly praised by the late British gardener Christopher Lloyd. It likes a sunny spot with fertile soil and good drainage.

Dwarf hawk's beard (*C. nana*) is a very pretty little plant of the scree and high mountains, flowering in July and August. It forms a cushion-like rosette of attractive blue-green leaves and bears bright yellow flowers with orange buds. You can find it around Helen Lake in Banff National Park if you go looking for it. (*Crepis atribarba* and *Crepis occidentalis* are two other species you may find while you're up there.)

Almost as beautiful as *C. incana* is *C. rubra*. Ranging from a soft pink to deep rose (and not red as the name implies), this is an occasionally cultivated species that flowers profusely and is highly attractive to butterflies. It prefers stony or gravelly soil and is native to the eastern half of the Mediterranean. Unlike most of its relatives, it rarely becomes weedy.

Narrow-leaf hawk's beard (*C. tectorum*) usually grows as an annual but is occasionally perennial. It is common in moist meadows and often grows in abundance. Originally native to Siberia, it was introduced to North America in the 1870's and has made quite a weed of itself. The seeds germinate very readily and studies have shown that a single plant can produce nearly 50 000 seeds. Considered a major weed in both Alberta and Manitoba, it often invades forage crops as well as roadsides and ditches.

The genus *Hieracium* is one of the reasons that *Asteraceae* (the daisy family) is the second largest in the plant kingdom. These plants are commonly known as hawkweeds. There is considerable debate among botanists as to how many species belong here, and the numbers range from around 900 species to well over 2000. Several of these plants have been historically cultivated for their beauty, and even more of them are banned for sale as they have become incredibly noxious weeds. Like the dandelions, the hawkweeds are capable of apomixis, and many large populations of them are genetically identical as a result. The Latin name comes from the Greek word *Hieros*, meaning hawk. For some reason, it was believed that hawks fed on these plants to maintain their keen vision. As a result, these plants have been used medicinally, primarily to treat eye problems.

The Amazing Dandelion (And Friends)

By Lyndon Penner

H. aurantiacum is commonly called orange hawkweed. It is listed as a noxious weed in many places but escaped to the wild from gardens as a cultivated plant. It grows up to 12" tall and produces very showy clusters of reddish orange flowers over a long period. It spreads by means of creeping stolons which form dense mats and rapidly choke out native vegetation as well as by seed. The stems are bristly and while early summer is the main period of bloom, it can flower at almost any time. It is a very difficult plant to control and it gets out of hand very quickly.

The slender hawkweed (*H. gracile*) is a species native to North America with attractive bright yellow flowers on waving stems. It blooms late July into August and prefers moist to wet locations.

Spotted hawkweed (*Hieracium maculatum*) has yellow flowers in profusion and peculiar spotted foliage. The cultivar 'Leopard' was selected especially for the intense and brilliant purple spotting (and sometimes striping) of its foliage. It does, however, tend to become weedy if it isn't deadheaded. (*I remove the flowers entirely as they draw attention away from the foliage.)

Rattlesnake weed (*H. venosum*) is from the eastern half of North America and is so named because it was used medicinally by First Nations people, most notably to treat rattlesnake bites. It has yellow flowers and beautiful, heavily veined dark foliage.

Hypochaeris is a genus of 50-100 species (depending on which botanist you talk to) and commonly called cat's ear. They are weedy plants (generally) and resemble true dandelions but with a few important differences. Cat's ear produces forked (rather than straight) stems and the stems are solid, not hollow. The leaves are covered in a very fine, soft hair and when touched, they feel not unlike a small fuzzy animal or perhaps a cat's ear, and hence the name. They are also generally much taller than true dandelions. *H. radicata* is the most familiar species, and is a common weed on many parts of North America's west coast.

The sow thistles (*Sonchus*) are so named because apparently pigs are very fond of eating them. They are considered edible to humans as well, but they are so fantastically bitter that very few would consider them palatable. There are well over 100 species, and they may be annual or perennial. They are common and troublesome weeds, absorbing large quantities of nutrients from the soil and easily outcompeting less robust plants. Growing from 1-5 ft. tall, these plants resemble dandelions in many ways and will also bleed a white milky latex when broken or cut. They spread very quickly, and from the time a blossom opens to the time that it is producing ripe seed is about 10 days. A single plant can produce up to 4000 seeds. They are problematic plants in both gardens and fields.

The Amazing Dandelion (And Friends)

By Lyndon Penner

There are well over 100 known species of goat's beard (*Tragopogon*) and they are also known as salsify. They should not be confused with the true salsify (*Scorzonera*) even though they are often used in similar ways. Most bloom in July and August, and the blooms range from 1-2" in diameter. They open and close with the sun and give way to large, interesting seedheads very similar to a dandelion but much bigger. Western goat's beard (*T. dubius*), meadow goat's beard (*T. pratensis*) and common goat's beard (*T. porrifolius*) are all common weeds in North America and are known to hybridize with each other. All bleed milky latex when cut, they have upright stems and grass-like leaves, and they are usually biennials. They grow from 6-36" tall and have deep taproots.

Like the dandelion, the entire plant is edible but is almost always cooked first. Historically they have been used to treat heartburn, kidney issues, and for sores and wounds that wouldn't heal. Flowers are usually yellow but *T. porrifolius* has violet or purple blossoms which are actually quite pretty. They are major agricultural weeds and often treated with herbicides. The roots are said to be very tasty when cooked, with a flavour reminiscent of oysters.