

Arctium

Arctium is a genus of biennial plants commonly known as burdock, family Asteraceae.[3] Native to Europe and Asia, several species have been widely introduced worldwide.[4] Burdock's clinging properties, in addition to providing an excellent mechanism for seed dispersal, led to the invention of the hook and loop fastener.

Plants of the genus Arctium have dark green leaves that can grow up to 70 centimetres (28 inches) long. They are generally large, coarse, and ovate, with the lower ones being heart-shaped. They are woolly underneath. The leafstalks are generally hollow. Arctium species generally flower from July through October. Burdock flowers provide essential pollen and nectar for honeybees around August, when clover is on the wane and before the goldenrod starts to bloom.[5]

Burdock's clinging properties make it an excellent mechanism for seed dispersal.[4]

Hooked burrs

Macro photograph of a bur, showing the sharp hook structures

Closeup of burdock

Burdock bush

Arctium lappa (greater burdock)

A 180 cm (5 ft 11 in) tall man holding a leaf

A large number of species have been placed in genus Arctium at one time or another, but most of them are now classified in the related genus Cousinia. The precise limits between Arctium and Cousinia are hard to define; there is an exact relation between their molecular phylogeny. The burdocks are sometimes confused with the cockleburs (genus Xanthium) and rhubarb (genus Rheum).

The following species are accepted:[1]

Circa 16th century, from bur + dock, the latter meaning sorrel of the genus Rumex.[6]

The roots of burdock, among other plants, are eaten by the larva of the ghost moth (*Hepialus humuli*). The plant is used as a food plant by other Lepidoptera including brown-tail, *Coleophora paripennella*, *Coleophora peribenanderi*, the Gothic, lime-speck pug and scalloped hazel.

The prickly heads of these plants (burrs) are noted for easily catching on to fur and clothing. In England, some birdwatchers have reported that birds have become entangled in the burrs leading to a slow death, as they are unable to free themselves.[7]

The green, above-ground portions may cause contact dermatitis in individual with allergies as the plant contains lactones.[8]

The taproot of young burdock plants can be harvested and eaten as a root vegetable. While generally out of favour in modern European cuisine, it is popular in East Asia. *Arctium lappa* is known as niúbàng (牛蒡) in Chinese, the same name having been borrowed into Japanese as gobō, and is eaten in Japan, Korea and Taiwan. In Korean, burdock root is called u-eong (우엉) and sold as tong u-eong (통우엉), or "whole burdock". Plants are cultivated for their slender roots, which can grow up to about one metre long and two centimetres across. Burdock root is very crisp and has a sweet, mild, or pungent flavour with a little muddy harshness that can be reduced by soaking julienned or shredded roots in water for five to ten minutes. The roots have been used as potato substitutes in Russia.[9]

Immature flower stalks may also be harvested in late spring, before flowers appear; their taste resembles that of artichoke, to which the burdock is related. The stalks are thoroughly peeled, and either eaten raw, or boiled in salt water.[10] Leaves are also eaten in spring in Japan when a plant is young and leaves are soft. Some *A. lappa* cultivars are specialized for this purpose. A popular Japanese dish is kinpira gobō (金ぴらごぼう), julienned or shredded burdock root and carrot, braised with soy sauce, sugar, mirin and/or sake, and sesame oil. Another is burdock makizushi (sushi filled with pickled burdock root; the burdock root is often artificially coloured orange to resemble a carrot).

In the second half of the 20th century, burdock achieved international recognition for its culinary use due to the increasing popularity of the macrobiotic diet, which advocates its consumption. It contains a fair amount of dietary fiber (GDF, 6 g per 100 g), calcium, potassium, and amino acids,[11] and is low in calories. It contains the prebiotic fiber inulin.[12] It contains a polyphenol oxidase,[13] which causes its darkened surface and muddy harshness by forming tannin-iron complexes. Burdock root's harshness harmonizes well with pork in miso soup (tonjiru) and with Japanese-style pilaf (takikomi gohan).

Dandelion and burdock is a soft drink that has long been popular in the United Kingdom; it has its origins in hedgerow mead commonly drunk in the mediæval period.[14] Burdock is believed to be a galactagogue, a substance that increases lactation, but it is sometimes recommended to be avoided during pregnancy based on animal studies that show components of burdock to cause uterus stimulation.[15]

In Europe, burdock root was used as a bittering agent in beer before the widespread adoption of hops for this purpose.

The seeds of *A. lappa* are used in traditional Chinese medicine under the name niubangzi (Chinese: 牛蒡子; pinyin: niúbángzi; some dictionaries list the Chinese as just Chinese: 牛蒡; pinyin: niúbàng).[16]

Burdock is a traditional medicinal herb used for many ailments. Burdock root oil extract, also called bur oil, is used in Europe as a scalp treatment.[17]

Black from dust but still alive and red in the center. It reminded me of Hadji Murad. It makes me want to write. It asserts life to the end, and alone in the midst of the whole field, somehow or other had asserted it.

In Turkish Anatolia, the burdock plant was believed to ward off the evil eye, and as such is often a motif appearing woven into kilims for protection. With its many flowers, the plant also symbolizes abundance.[18] Before and during World War II, Japanese soldiers were issued a 15-1/2-inch bayonet held in a black-painted scabbard, the juken. Their nickname was the

burdock sword (gobo ken).

Mary Palmer's mid 18th century Devonshire Dialogue records the burrs of the plant being known in Devon, England, as "bachelor's-buttons".

After taking his dog for a walk one day in the late 1940s (1948), George de Mestral, a Swiss inventor, became curious about the seeds of the burdock plant that had attached themselves to his clothes and to the dog's fur. Under a microscope, he looked closely at the hook system that the seeds use to hitchhike on passing animals aiding seed dispersal, and he realized that the same approach could be used to join other things together. His work led to the development of the hook and loop fastener, which was initially sold under the Velcro brand name.[19]

Serbo-Croatian uses the same word, **pi██ak**, for burdock and velcro;[20] Turkish does the same with the name **pitrak**, while in the Polish language **rzep** means both "burr" and "velcro".[21] The German word for burdock is **Klette** and velcro is **Klettverschluss** (= burdock fastener).[citation needed]

In Norwegian burdock is **borre** and velcro **borrelås**, which translates to "burdock lock".[22]

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