



Mustards of the Rockies

“Messin’ Around with the Mustards”

Elnora A. Old Coyote

The *Brassicaceae* are a medium-sized and economically important family of flowering plants informally known as *the mustards*, *mustard flowers*, *the crucifers*, or *the cabbage family*. Wild weeds or cultivated foods, the mustard family contains over 330 genera and about 3,700 species—untangling the ubiquitous mustards is a tedious chore! *Broccoli*, *cabbage*, *cauliflower*, *turnips*, *kale*, *Chinese cabbage*, *radishes*, *horseradish*, *brussel sprouts* and *rutabagas* are all mustards, but we will center on the non-cultivated varieties here to represent this family as typical mustards, or because of special ecological concerns. The *watercress* is a popular salad plant with some medicinal uses. The *tumble mustard* is known as a prolific, undesirable “weed.” The yellow *prairie wallflower* is seen in springtime pleasantly covering pasture lands. Several others will be touched upon, such as *peppergrass*, *shepherd’s purse* and *horseradish*. Some of these are native to the Rocky Mountains, from plains to foothills to mountains; others are *johnny-come-latelies* that came tumbling in, or by seed floating on the wayward winds.

Most mustards are common to all of the United States, if not the world. Many are edible as greens in spring, or as flour ground from the hard little seeds in the fall. Every gardener plants many genetically modified mustards in his garden. As a people, early or late, we have eaten a lot of mustards.

The name *Brassicaceae* is derived from the Celtic word *bresic* meaning cabbage.

Cruciferae, an older name, meaning “cross-bearing” describes the four-petaled shape of all mustard flowers. The number and arrangement of the stamens (the male part of the flower), six in all—two short and four tall—also serve to set them apart from other plants.

Generally mustards have the following characteristics: They may be annual, biennial or perennial plants, usually herbs, rarely shrubs with a woody base. They have pungent juice (sap) as in radishes. Leaves are alternate, entire or finely dissected. Flowers are perfect (containing both male and female reproductive parts),

usually yellow or white, only purple once in a while, in spikes or racemes, often flat-topped. Sepals are 4, deciduous. Petals are 4 with spreading blades, rarely wanting, alternate with the sepals. Stamens are usually 6, the inner four longer, the other 2 short. The gynoecium (the entire set of pistils) is composed of 2 united carpels. The ovary is usually superior, having all flower parts attached below it; it is 2-celled, divided by a septum (a wall-like partition), rarely



HOARY CRESS (*Cardaria draba*)

This weedy plant may be 24 inches tall. It spreads by rootstocks in thick patches. This plant is aggressive on alkaline soil, leftover gardens, grain fields and any disturbed area. Livestock will graze it only in need because it irritates their mucous membranes. Seeds are sometimes eaten by ground birds.





1-celled. Fruit is a capsule which usually splits open, seeds are attached on both sides of the septum partition.

As noted above, when young and green, most native wild mustards are edible raw or boiled as greens. Many of them are bitter and need to be boiled once, the water drained off, and boiled again to get rid of the bitterness. Seasoning with salt and pepper, adding a pat of butter, and sometimes a drop of vinegar or lemon juice makes mustards quite palatable. They can be added to stews or soups, as cabbage is used.

~ Watercress ~

(*Nasturtium officinale* R. Br.)

Great masses of cool green leaves—a green salad.

Floating on the spring water of quiet shallow ponds or slow-moving streams, camouflaging the clear water below.

Roots anchored in the mud, with little white four-petaled flower heads.



conditions exist for their arrival.

The Latin name, *Nasturtium*, comes from *nasitortium*, meaning “distortion of the nose,” likely because of the pungent odor of some of these plants.

Food: For all of time, people the world over have harvested fresh watercress to add a slightly spicy taste to their green salads, or to boil like spinach.

My great-grandfather liked it fresh. He'd take

a handful, cut it up with his knife, and add it to gravy on potatoes or other cooked vegetables. He eagerly looked forward to watercress each spring. All of my people watched for it in spring waters—its fresh, cool green taste helped chase away the long winter blues. It was a definite sign winter was gone and fresh green things were coming on to brighten the meals.

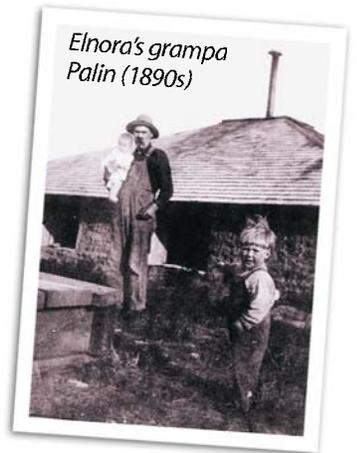
Blackfeet Indians ate the leaves raw in salads and cooked them alone or in stews. The raw stalks were eaten like celery.

Medicine: Historically, reports indicate that watercress has been eaten and used medicinally around the world. In early Roman times, it was thought to be good for

Watercress should be harvested for greens from fresh-water sources. It will grow as well in some polluted water, but if the plants are to be useful, the water must be free of barn pollution and other pollutants. I did not know it also harbored liver flukes until my later years. So, look for them when cleaning the watercress.

Ecologically, as primary plants on bare, dry earth, watercress plays an important role as new growth and cover in areas where less hardy plants will not grow. Thus these primary “weeds” hold the soil and prepare the way for other, more desirable species, when favorable

HORSERADISH (*Armoracia lappathifolia*) (a.k.a. Mountain Radish) has been found effective in promoting stomach secretion used as a digestive agent. The roots and leaves have long been valued for a wide range of medicinal uses.



SPRING CRESS or **BITTER GRASS** (*Cardamine bulbosa*), meaning deep seated bulbous or tuberous roots, is an early spring flower, 10 or so inches tall. It is found in marshes and creek bottoms. It has white, four-petalled mustard flowers. Native Americans and early settlers used it as a tangy condiment in early spring to replace dried or salty foods.



deranged minds! The leaves, stems and flower-heads had medicinal uses. Pliny (23–79 AD) listed many medicinal uses for watercress, but he disagreed with Dioscorides (40–70 AD) that the seeds of watercress had aphrodisiac effects. However, Dioscorides believed the seeds were not good for the stomach or spleen, although they were a good vermifuge (worm killer and expeller). He also wrote that they would kill an unborn child if the mother ingested the seeds. Pliny also believed the smoke from burning watercress would drive away serpents and offset the venom of scorpions!

The Chinese arriving in early America found watercress to be helpful in the treating of tuberculosis and to treat gingivitis. They carried this information back to China.

A tea made of watercress and a bit of ginger (or just eating some fresh) is said to be soothing for a cold-related cough and runny nose.

Another medicinal use has been eating watercress to relieve shingles, a painful rash that turns to pustules that heal over in 2–3 weeks. Shingles are caused by the herpes virus thought to be left over from chickenpox and lying dormant in nerve endings to re-emerge later, often after 60 years of age. Watercress is high in the amino acid lysine, known to send the herpes virus back into a dormant state.

Some Native Americans used the plant for liver and kidney troubles. The plant has a high Vitamin E content, hence the juice has become used as a wash for the skin. The Northern Cheyenne people call it “MA PE VOTZ,” and report using it as a salad green. They also harvest the entire plant when in flower and make a tea from it, either fresh and preferably dried, to tone the liver and cleanse the blood. They report it can be used as a diuretic to break up kidney or bladder stones. And they used the fresh juice from the leaves to treat acne, eczema, rashes and other skin irritations, also for ringworms, a term used by old-time people to describe a circular fungal growth.



~ TUMBLING MUSTARD ~

(*Sisymbrium altissimum* L.)

*Rival of the Russian thistle,
This mustard tumbles
in the wind,
until a fence...*



Tumbling mustard is an annual plant with thickened taproot and tall stems 2–4 feet high, leaves alternate, pinnately lobed, sparsely hairy. Flowers of yellowish-white in terminal racemes, typically a mustard with 4 petals, 4 sepals, 6 stamens (4 longer, 2 short), seed pods long, narrowly cylindrical with numerous tiny



Tumbling Mustard

seeds.

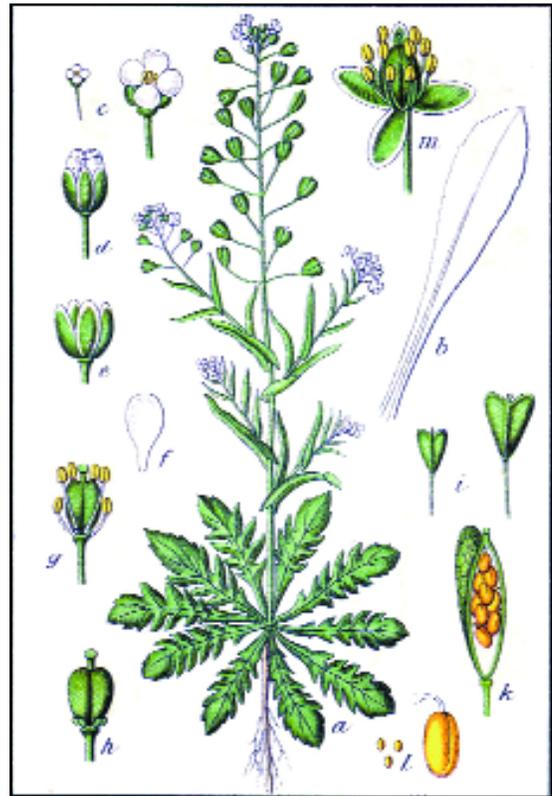
The infamy of this plant, labeled a weed, is its obvious numbers and apparent worthlessness. Also called Jim Hill mustard, Tall Tumblemustard, and

Tall Rocket Mustard, it is a native of Europe and found all over the US, the seeds having been distributed not only by agriculture but also by railroad building.

Tumbling mustard is a serious nuisance in grain and hay fields and pastures; and it is also associated with another nuisance plant the Russian thistle (*Salsola pestifer*). Somebody counted and reported 1,500,000 seeds per single tumbling mustard plant—a lot of seeds for the winds to scatter!

As the Russian thistle is credited with one possible value, so is tumbling mustard. Both are primary plants, growing from widely dispersed wind and water-carried seeds, able to grow on bare soil very fast with little moisture, thus providing shelter from soil erosion. Mustard is fair graze for animals when young and green and stock show a preference for it over Russian thistle.

In early spring, patches of tiny mustards grow hither and yon along roads, railroad trestles, and on edges of fields not plowed yet, on ditch banks out-of-the-way places. The flowers may be purple, pink, yellow or white.



SHEPHERD'S-PURSE

(*Capsella bursa-pastoris*)

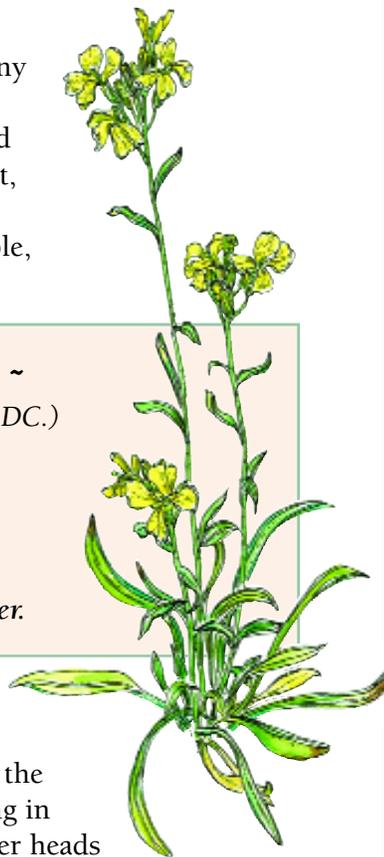
This plant grows as a weed in gardens, lawns, and fields. Blanched young leaves are eaten in salads. Fresh, dried roots are used as ginger and in soups flavored with salt and a little vinegar. Seeds harvested dry from ripe fruits are also used in vegetable soups.

~ PRAIRIE WALLFLOWER ~

(*Erysimum asperum* (Nutt.) DC.)

*Very early yellow beauty
spots the hillsides*

*Radiant greetings
just a bit ahead of summer.*



Wallflowers are biennial or perennial plants with narrow leaves. These are among the prettier mustard plants, blooming in bright-yellow, four-petalled flower heads in spring to early summer on the Great

PEPPERWEED or PEPPERGRASS

(*Lepidium virginicum*)

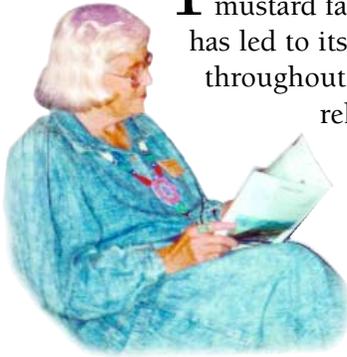
is found in waste places, hay fields and among other grasses along road-sides and railroad tracks.



Plains and foothills of the Rockies. Some wall-flowers have always been present in the flora of the Rainshadow of the Rockies (the dry eastern slopes and flats); others have moved in from other areas often in accompaniment with agricultural activities.



The importance and value of the mustard family for food crops has led to its selective breeding throughout history. Kids may not relish them, but the cruciferous vegetables have it all—vitamins, fiber, and disease-fighting phytonutrients. That's why we love our cabbage, broccoli, cauliflower, turnips, radishes, horseradish, our wasabi and, of course, our watercress. ■



DR. ELNORA (STENERSEN) OLD COYOTE, age 89, grew up in Eastern Montana and married John M. Old Coyote, a full-blooded Crow Indian. With the help of many tribal people, she has been researching and teaching the use of native plants for many years. She has studied and written about over 300 Montana plants. Included here are her notes on ecology and folklore, and her original drawings and poems. Elнора lives in Huntley, Montana. She can be reached at (406) 348-2181.

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