



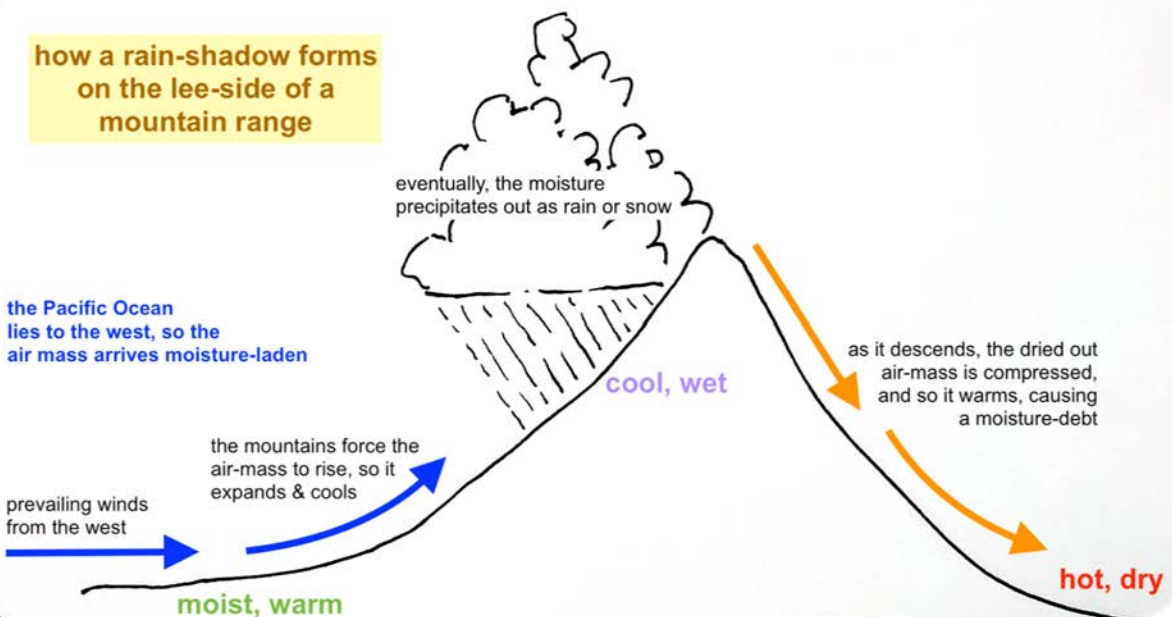
Daisies of the dry interior of southern British Columbia

WHY IT'S DRY

Much of the lower-elevation southern interior of British Columbia— east of the coastal mountain ranges, and west of the Rocky Mountain system— and especially around river valleys— is pretty dry country, since it lies in the so-called 'rain shadow' of the coastal ranges. This rain shadow arises because the main atmospheric drift in these latitudes is from the west, off the Pacific Ocean, then continuing across the continental interior. As the Pacific air mass moves on-shore it is forced to rise above the Coast ranges, cooling and expanding as it goes, thus reducing its capacity to hold its moisture, which then precipitates out there as rain or snow. This now somewhat dried-out air, continuing east, descends to the lower-elevation interior, is compressed and heated as it goes, usually arriving at lower elevations with a substantial water debt, thus providing for little further precipitation— indeed often withdrawing moisture from the terrain and vegetation below. This general climatic régime explains the presence of the extensive dry scrublands and grasslands of this region, bringing northwards a vegetation that perhaps seems more appropriate to the Great Basin region of the United States— to Nevada, Idaho, and the eastern parts of Washington and Oregon.

Among the more widespread, common, and eye-catching of the summer flora of this region are the daisies and fleabanes— many looking like miniature asters— that biologists have collected together under the genus name ***Erigeron***, first assigned to such plants by the great 18th century Swedish botanist, Carl Linnaeus.

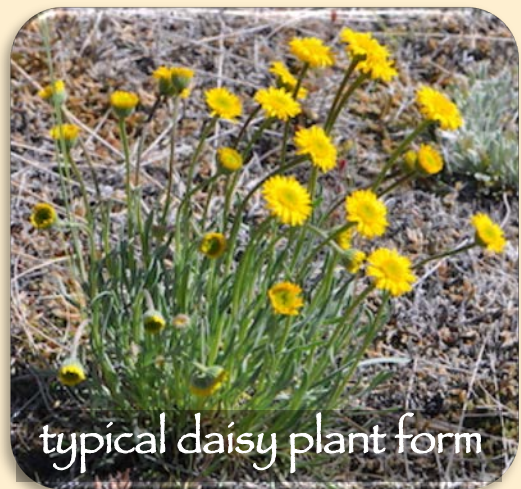
how a rain-shadow forms on the lee-side of a mountain range



The genus *Erigeron*, in the sunflower family, **Asteraceae**, includes approximately 390 species of herbaceous plants worldwide. This genus has a cosmopolitan distribution, but is much associated with dry scrublands and grasslands throughout its range, while its highest diversity (approx. 175 species) occurs in North America. Approximately 30 of these species are recorded in BC, with around a dozen of them found in the shrub-steppe and grasslands of the southern dry interior of the province.

The name *Erigeron* derives from the Greek *eri*, early, or perhaps *erio*, woolly, and *geron*, old man, perhaps (Linnaeus wasn't explicit) alluding to the early flowering of some species, or to the white or grey woolly fruiting heads of many of the species.

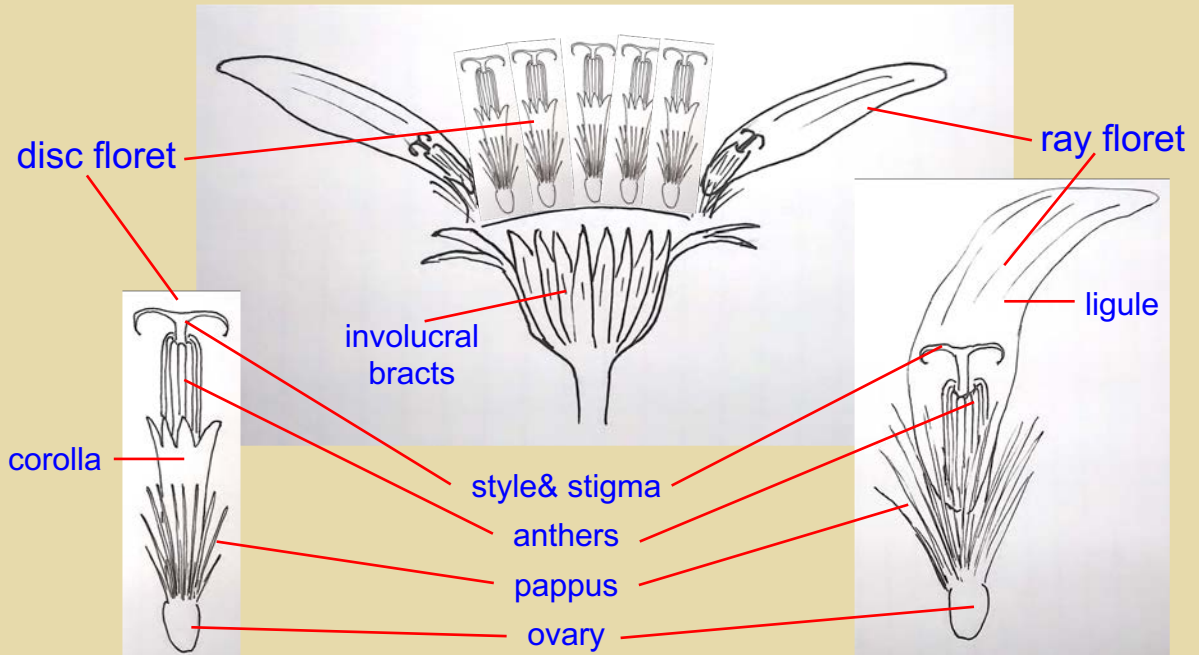
These plants are commonly referred to as 'daisies' on account of their general similarity to *Bellis perennis*, the common, lawn, or English daisy. Alternatively, some call these plants 'fleabanes', which also have similarly-structured flowers, while that name derives from the traditional belief that the dried plants repelled fleas. The name 'fleabane' is also applied to several other, unrelated plants. Given this imprecise use of both 'daisy' and 'fleabane', here we shall mainly use their scientific names.



General description: In most members of the Asteraceae, what appears to be a single flower is actually a composite structure formed of a densely-packed head of tiny highly-modified flowers, or *florets* all surrounded by an *involucre* of protective *bracts* or *phyllaries*. All of the species described here typically show a flower head with a central zone, or disc, usually yellow, comprising many 'disc florets' that lack obvious petals (*corolla*), all surrounded by a border of white, pink, purple or blue radially-disposed 'ray florets', where the 'ray' is formed by a single strap-shaped petal structure, or *ligule*. Sometimes, the rays may be lacking, leaving only the central 'disc' portion. In each floret, the pollen-producing *anthers* form a tube through which emerges the *style*, carrying a forked *stigma* at its tip. The *corolla*, *anthers*, *stigma* etc. are bordered by a *pappus* of hairs, which go to form the mature seed's wind-dispersing 'parachute', as in dandelions. In most *Erigeron* species, the main plant body is rather low to the ground, while the flowering shoots, which may be simple or branched, rise a few inches— or occasionally up to a foot or two— above ground level, depending on the nature and density of the surrounding vegetation, if any. Most species are obviously hairy, sometimes markedly so, though some are often almost hairless (see individual accounts for detail). Though these daisies do resemble asters, they bloom in spring and early summer, while asters (*Eurybia*, *Symphiotrichum*) bloom in later summer, and into the fall.

Diagrams showing the structure of daisy flower heads

daisy flower head

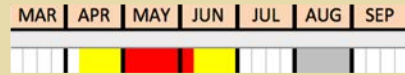


This chart shows the flowering seasons of each of our species. Published limits are shown in grey, while flowering recorded in the Kamloops area are shown in red (main period) and yellow (early and late-flowering individuals). The species account pages follow this seasonal sequence, and each page shows the relevant bar from this chart.

TAXON	APR	MAY	JUN	JUL	AUG	SEP	OCT
<i>Erigeron compositus</i>							
<i>Erigeron philadelphicus</i>							
<i>Erigeron pumilus</i>							
<i>Erigeron linearis</i>							
<i>Erigeron filifolius</i>							
<i>Erigeron corymbosus</i>							
<i>Erigeron flagellaris</i>							
<i>Erigeron divergens</i>							
<i>Erigeron speciosus</i>							
<i>Erigeron strigosus</i>							
<i>Erigeron lonchophyllus</i>							

Species accounts, habitats, N. Am. ranges, & flowering seasons
 A character-comparison table of these species is at the end of this document.

***Erigeron compositus*, cut-leaf daisy**

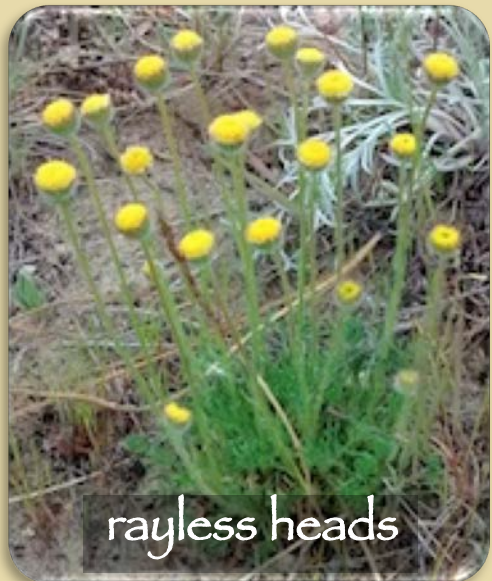


Dry rocky areas, scree slopes, and gravelly river terraces; from steppe to alpine. From AZ, n. through w. USA to SK, AB & BC, to AK, NT, NU and QC. Common in BC. **May-Aug.**

E. compositus is the only daisy here with divided leaves (3-forked, often multiply so); its flowering stalks are erect, un-branched and almost leafless, with single flower-heads, usually with white ray florets, though they may occasionally be pinkish or bluish. It is the only species to often lack ray florets— having discoid flower-heads. The seed-heads look like miniature dandelion heads, as do all *Erigeron* species considered here. Similar white daisies: *E. flagellaris* has spoon-shaped leaves + creeping stolons; *E. pumilus* is **very** hairy and has linear leaves + usually branched flower stems; *E. divergens* is very hairy, has spoon-shaped leaves + usually branched flower stems.



typical rayed heads



rayless heads



3-forked leaves

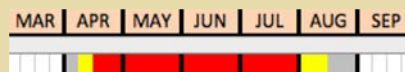


seed heads

Erigeron philadelphicus, Philadelphia daisy

Moist to mesic grasslands, shrub-lands & open forests in lowlands, steppe and montane. All N. Am. except AZ, NM, AK & NU. Frequent in all but n. w. BC. [April-August](#).

This daisy is easily distinguished from other *Erigeron* species, being usually tall, much-branched above, carrying many pale to bright pink flower heads, each with well over a hundred fine rays. The whole plant is much less hairy than the other *Erigeron* species, making the plant look often quite bright green. The green leaves are quite large, broadly oblong, and often toothed or lobed. This plant is often found at the margins of wetlands.



Erigeron pumilus, shaggy daisy

APR	MAY	JUN	JUL	AUG

Dry grasslands or shrub-lands in the steppe zone.

CA to KA north through BC, AB & SK. Common in s. BC. *May-July*.

This species well deserves its vernacular name “shaggy”, being copiously hairy throughout. Otherwise, it most resembles *E. filifolius* in overall form and leaf-shape, differing in typically showing drooping flower buds, and fine, well-separated, bright white ray florets (though sometimes pink, especially in e. BC), which are often reflexed downwards when the heads are fully open. This species is a rapid colonizer of disturbed or overgrazed dry sites, and sometimes forms virtual carpets of blooms.



Erigeron linearis, linear-leaf daisy

APR	MAY	JUN	JUL	AUG
█	█	█	█	█

Dry, often rocky/stony, grasslands and shrub-lands in the steppe zone.
From CA & UT, north through BC. Frequent in s. c. & s. e. BC. *May-July*).

This daisy is easily identified by its brilliantly yellow flower heads, carried singly on several to many largely, or essentially, leafless flowering stems. The numerous basal leaves resemble those of *E. filifolius* and *E. pumilus*, though they are somewhat longer, broader, straighter, and less hairy, so appearing somewhat greener rather than greyish.



Erigeron filifolius, thread-leaf daisy

APR	MAY	JUN	JUL	AUG

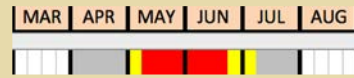
Dry grassy & shrubby slopes and open forests in the steppe and lower montane zones. From CA & UT north to BC. Common in s. c. & s. e. BC. *May-July*.

This daisy shares a liking for the driest locations, along with *E. compositus* & *E. pumilus*, and is often found in close association with them, but also often co-occurring with *E. corymbosus*. Morphologically, it most resembles *E. pumilus*, but is distinguished from it in being a rather more upright plant, with its stem bases often sitting up off the ground. It is also less hairy, and with purple-rayed flower heads that rarely droop. The rays themselves are also broader, and only rarely are white or reflexed.

Its purple to blue flower heads strongly resemble those of *E. corymbosus*, and care must be taken to examine the basal leaves to be sure of the identification—this species has fine, thread-like leaves (see next page).



Erigeron corymbosus, long-leaf daisy



Dry grassy or shrubby slopes & forest openings in the steppe and lower montane zones. North-western USA to BC. Frequent in s. c. & s. e. BC. *June-July*.

The flowers of this largely purple-rayed daisy (sometimes tending to pink or white) are very similar to those of *E. filifolius*, which also occasionally shows pinkish or white individuals. However, they are readily distinguished by the size & form of their leaves, along with the usual general shape of the whole plant. Thus *E. corymbosus* typically shows abundant, long, strap-shaped basal leaves with sharp-pointed tips, while *E. filifolius* basal leaves are shorter, and very fine & thread-like— many of which persist through the winter. In general body form, *E. corymbosus* is usually a more upright and elongated plant, while *E. filifolius* is typically more spreading and low-lying, while the shape difference is often exaggerated by the fact that *E. corymbosus* tends to be more often found among denser, usually grassy vegetation, while *E. filifolius* is more common in more open, bare, somewhat drier locations. The flowering stalks of both species are often somewhat- to much-branched.



Erigeron flagellaris, trailing daisy

APR	MAY	JUN	JUL	AUG	SEP
	■	■	■	■	■

Meadows and grassy slopes, often moist, open areas in grasslands, open forests.
From TX, north and west to AB & BC. Frequent in s. c. BC. *May-August* (pers. obs. only).

Rather like *E. compositus*, the white flower heads of this species are carried singly on largely leafless flowering stems. In contrast, *E. flagellaris* is much less hairy than *E. compositus*, and has spoon-shaped, rather than 3-forked, basal leaves, together with conspicuous, often long, trailing leafy stolons, which give rise to clonal 'offspring' plants, often forming loose, open mats— thus providing the species with its vernacular name.



Erigeron divergens, diffuse daisy

MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
		■	■	■	■	■	■

Dry grasslands, shrublands, and forest openings in the steppe zone.

From TX, north and west to AB & BC. Frequent in s. c. & s. e. BC. *May-July* .

This daisy somewhat resembles *E. filifolius* and *E. pumilus*, though it is usually more noticeably hairy than the former, and its spoon-shaped basal leaves distinguish it from both species. On the other hand, like *E. pumilus*, its young flower buds commonly droop. Like both of these species and *E. corymbosus*, the flowering stalks are usually somewhat- or much-branched.

The flowering stems are notably leafy, the leaves linear and rather broad, in comparison with those of the three other species mentioned above. The flowering stems are often obviously reddish to reddish-brown.



Erigeron speciosus, showy daisy

APR	MAY	JUN	JUL	AUG	SEP
█	█	█	█	█	█

Moist to mesic open grassy slopes and forests in the lower montane zone.
AZ & NM north through BC & AB. Common in s. BC e. of Coast Ranges. June-August .

This is often a large & robust plant. While the flower heads of *E. speciosus* clearly resemble those of *E. filifolius* & *E. corymbosus*, the heads are almost always clearly larger, and with many more ray florets. Besides this, this species is easily separated from the other two in that its basal leaves wither away before flowering, it has many large spear-shaped stem leaves, which are essentially hairless, and it generally lives in moister locations than the other two species, often entering well into the margins and clearings of forested areas, as well as perhaps sharing the moister open grassy areas that are often host to *E. corymbosus*; it practically never occupies open dry areas, as does *E. filifolius*.



***Erigeron strigosus*, white-top daisy**

JUN	JUL	AUG	SEP	OCT

Mesic to dry roadsides and disturbed areas in the lowland, steppe and montane zones. *All N. Am. except AZ, NV & UT, AK, YT, NT, NU. Frequent in s. BC. [May-October](#).*

In gross terms, this daisy rather resembles *E. lonchophyllus* (see next page), in being usually tall and erect, branched near the top, with several to many flowering heads, and the leaves being rather broad and oblong in shape. However, the flower-heads themselves are very different from *E. lonchophyllus*, and closely resemble those of *E. flagellaris* or *E. compositus*, with long white rays, and a prominent, flat, bright yellow disc.



Erigeron lonchophyllus, spear-leaf daisy

JUN	JUL	AUG	SEP
		■	■

Moist to mesic meadows, stream-sides, bogs & open forests in montane and subalpine. From NM to MN, through w. USA; all Canada except Maritimes, NL & NU. Common in s. BC e. of Coast Ranges. *July-August*.

Though common throughout the southern interior of BC, this species is not one often found in really dry or well-drained habitats. It is anyway unlikely to be confused with the other species considered here, given its erect, solitary, & usually tall, branched flowering stems, rather large, mostly basal leaves, and its numerous, short, white ray florets (sometimes pink) and somewhat sunken yellow disc, all dwarfed by the prominent tall involucre.



Synopsis of species characteristics

SPECIES	plant height, cm	flowering stems	leaf form	leaf length, cm	ray				disc diam, mm.
					colour	number	length, mm	width, mm	
compositus	3-25	simple, ascending	3-way divided, long stalk	5-8	white; occas. pink or blue	20-60	6-12	2	8-20
philadelphicus	20-80	erect, branched above	oblong to egg-shaped, round-toothed or lobed	15-30	pink	150-250	5-10	0.2-0.6	6-15
pumilus	5-30	erect, usually much-branched, very hairy	narrowly linear	2-8	white	50-100	6-15	0.7-1.5	7-13
linearis	5-25	simple, upright	narrow linear	1-9	bright yellow	20-45	4-11	1.3-2.5	8-13
filifolius	10-50	simple or branched, spreading	thread-like	1-8	blue - purple, occas. pink	15-50 (120)	3-13	1-2	5-15
corymbosus	10-50	simple or branched, upright	linear, flat strap-shaped	2-25	blue - purple, occas. pink	35-65	7-13	1-2	7-13
flagellaris	5-20	simple, erect	spoon-shaped or oblong	1-7	white	50-100	5-10	1	7-13
divergens	10-40 (70)	usually branched, v. hairy, spreading	spoon-shaped or oblong	1-7.5	white; often tinged pink or purple	75-150	5-10	0.5-1.2	7-11
speciosus	15-80 (100)	erect, branched, largely hairless	basal leaves wither; stem leaves broad, lance-shaped	5-15	purplish-blue	75-150	9-18	0.3-1.0	11-22
strigosus	30-70	erect, branched	narrow to broad lance-shaped	2-15	white	50-100	2-6	0.4-1.0	5-12
lonchophyllus	2-50	simple or few-branched	oblong to spoon-shaped	1-15	white	70-130	2-3	0.5-1.0	5-8

these details compiled from
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The Flora of North America*

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