

Identification of Non-native Plants in Alaska



Alaska Natural Heritage Program
Alaska Center for Conservation Science
UNIVERSITY of ALASKA ANCHORAGE

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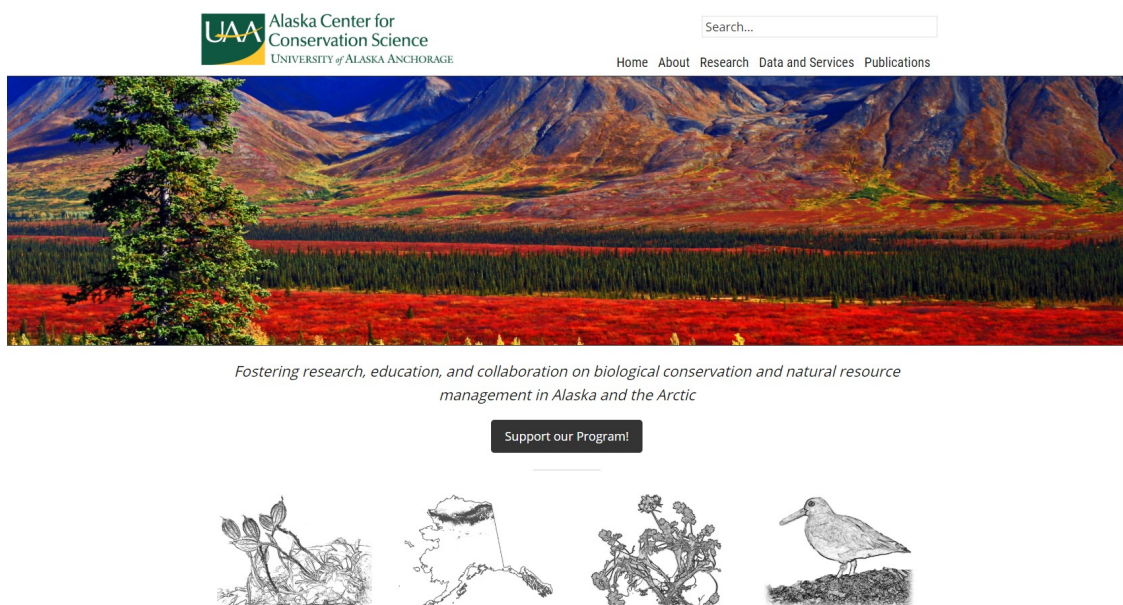
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Alaska Natural Heritage Program

Our mission is to provide the scientific basis for effective biological conservation in Alaska.

The Alaska Natural Heritage Program (AKNHP) collects, synthesizes and validates information on plant and animal and species of conservation or invasion concern, as well as their habitats. The AKNHP is part of a network of Heritage Programs in all 50 states and Conservation Data Centres in Canada and Latin America. The AKNHP was established in 1989 by The Nature Conservancy and in 1993 became part of the University of Alaska Anchorage (UAA), residing in the College of Arts of Sciences. Recently, the AKNHP was merged with other conservation science oriented units at UAA to become the Alaska Center for Conservation Science (ACCS).



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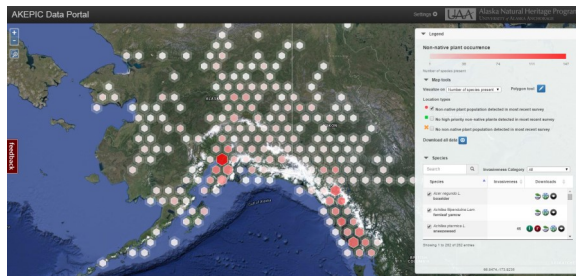
Alaska Exotic Plant Information Clearinghouse



The Alaska Exotic Plants Information Clearinghouse (AKEPIC: <http://accs.uaa.alaska.edu/invasive-species/non-native-plants/>) is a database and mapping application that provide geospatial information for non-native plant species in Alaska and neighboring Canadian Territories. These products are the result of an ongoing cooperation among the U.S. Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Department of Natural

Resources Plant Material Center and AKNHP in support of the Alaska Committee for Noxious and Invasive Plants Management (CNIPM) and the Strategic Plan for Noxious and Invasive Plants Management in Alaska. AKNHP administers the mapping application, database and website associated with the project. These data are primarily intended to support the identification of problem species and infestations, thus promoting early detection and rapid response across Alaska.

AKEPIC Data Portal

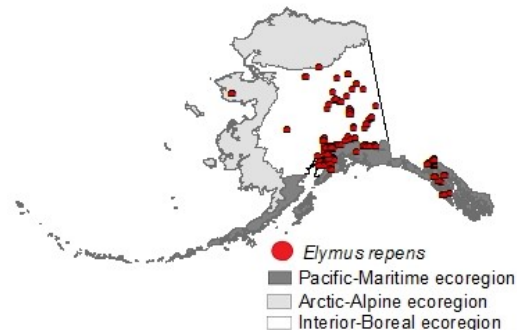


The records of non-native plants stored in AKEPIC can be queried by species or location and downloaded in text, tabular, spatial and open layers formats (<http://aknhp.uaa.alaska.edu/apps/akepic/>).

Species biographies and invasiveness rank documents have been developed for the more abundant or aggressive plant taxa currently tracked as non-native to Alaska. Species biographies profile the taxonomy, biology, ecological impacts, potential invasiveness, legal listings, distribution and feasibility of control of or for a given taxon; invasiveness rank documents quantify the potential invasiveness of a given species on natural areas.

Concepts of Invasiveness:

Second only to the direct loss of habitat, invasion of non-native species into intact ecosystems is the primary cause of biodiversity loss. The establishment of invasive non-native species can negatively impact ecosystem function, the economy and human health. However, not all non-native species are equally harmful. An invasiveness ranking system for non-native plants has been developed to evaluate the potential impacts of non-native plants to natural areas in Alaska so that the limited resources available for managing invasive species may be directed towards the most threatening species. The system evaluates the ecosystem impacts, biological attributes, distribution and feasibility of control of a given species. Species that are not known to occur in Alaska undergo a climate screening procedure, which evaluates the potential for a species to establish in the three ecoregions of Alaska: arctic-alpine, interior boreal and Pacific maritime (Nowacki et al. 2001). Species are then assigned a rank between zero and 100, where a rank of 100 indicates an extremely invasive species (Carlson et al. 2008).



Native	Plants that live or grow naturally in a particular region
Non-native, exotic, alien, non-indigenous	Plants whose presence in a given area is due to the accidental or intentional introduction by humans
Naturalized	Non-native plants that reproduce consistently in their new environment and sustain populations over many life cycles without direct intervention by humans
Invasive	Non-native plants that produce viable offspring in large numbers and have the potential to establish and spread in natural areas
Weed	Any plants, native or non-native, whose presence is undesirable to people at a particular time or place
Noxious weed	A plant species that has been legally defined as harmful and unwanted because of its potentially negative impacts to agriculture, fish and wildlife or public health

Integrated pest management:

Effective pest management may be achieved through a combination of methods that work better together than separately. Approaches for managing pests are often grouped in the following categories.

Prevention: develop procedures that minimize the introduction of non-native plants propagules to novel environments.

Inventory: learn how to correctly identify plant species and characterize their habitats. The information gathered can be used to document changes in a region's flora over time, and/or to develop informed and site-specific weed prevention, control and management programs.

Early Detection and Rapid Response (EDRR): enables land managers to identify incipient populations of invasive plants and eradicate them before they begin to spread, thus reducing environmental impacts and minimizing management costs.

Monitoring: monitor infestations to detect changes in population size and vigor, and prioritize infestations for control.

Control: control infestations by implementing one or a combination of the following methods:

- Manual (hand pulling)
- Mechanical (mowing, tilling)
- Cultural (prescribed fire, flooding)
- Barrier (tarping, mulching)
- Biological (intentional introduction of biological control agents)
- Chemical (herbicides)

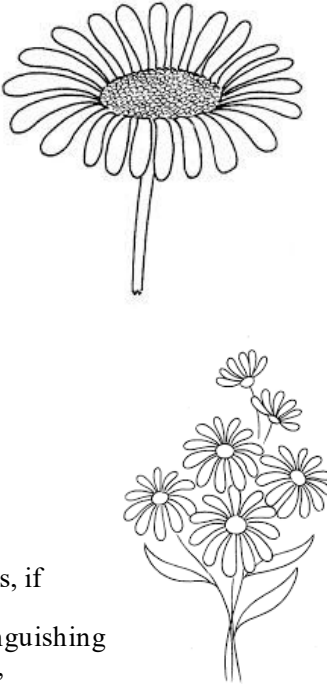
How to Use this Guide

The species described in this guide are organized by family. While the focus is on non-native species, some native species that could be confused with non-natives are also described.

In this guide, **non-native species are highlighted in red**, **native species are highlighted in green**, and **species whose nativity to Alaska is unclear are highlighted in orange**. Common and scientific names for all species are listed in the index on page 216.

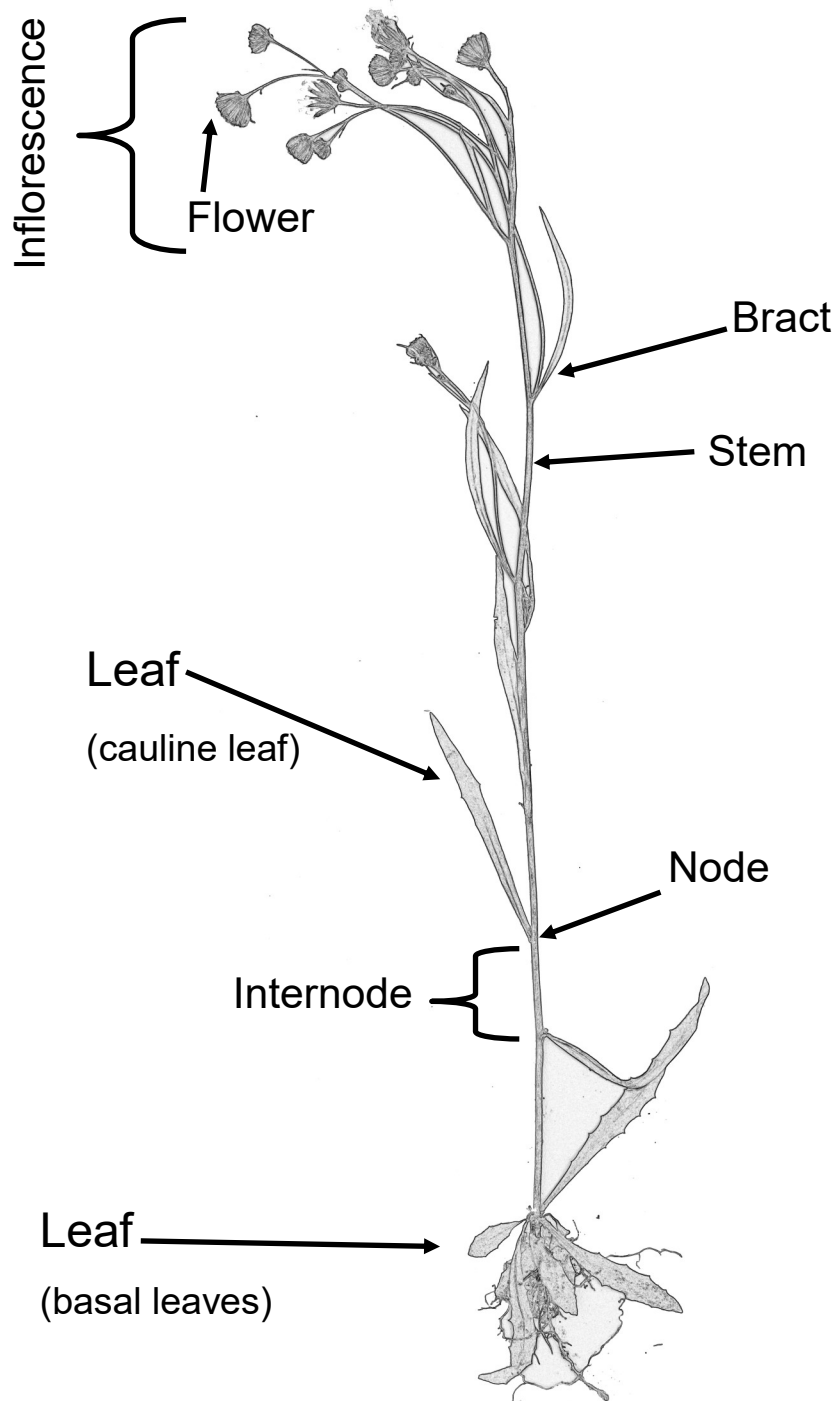
Modified keys for the Asteraceae and Poaceae are included at the end of their respective sections, and more specific keys for well-represented genera are sometimes included within the body of the text. However, please note that this document should not be used as the sole basis for plant identification or natural resource management decisions. A list of Alaska-specific field guides and technical flora is provided on page 211.

An example species' description is illustrated below:

COMMON FAMILY NAME (SCIENTIFIC FAMILY NAME)	
Common Name • <i>Genus epithet</i> <i>syn. Synonym synonym</i>	
Invasiveness Rank: # points (see p 6)	Species Code: USDA Plants Code
<p>General Information: Longevity (Annual, Perennial, etc) Height in cm or m Other general descriptions</p> <p>Description: Roots • Relevant characteristics Stems • Relevant characteristics Leaves • Relevant characteristics Inflorescence • Relevant characteristics Fruits • Relevant characteristics</p> <p>Habitat: description of common habitats Distribution: List of ecoregions; specific localities, if known Remarks: any additional information, e.g., distinguishing features, similar native species, relevant subspecies, taxonomic disputes, etc.</p>	
Page #	

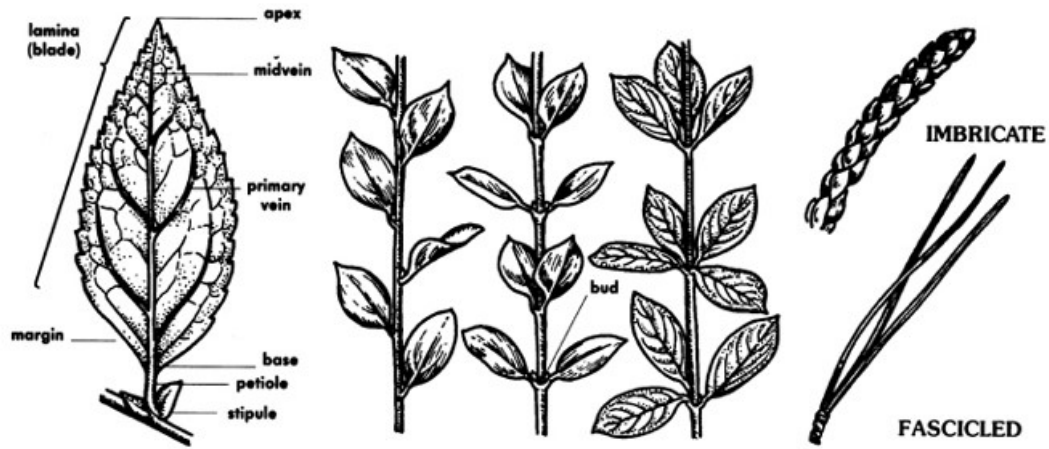
General Plant Morphology

Before identifying plants, it is important to understand basic plant morphology: the parts of a plant and their arrangement on the plant. A simple confusion between terminology can lead to incorrect identification. This section will serve as a reference for plant parts and help define terminology used throughout this guide.



INTRODUCTION

Leaf morphology and arrangement: *this is in reference to how a leaf is divided into multiple parts and arranged on a stem*

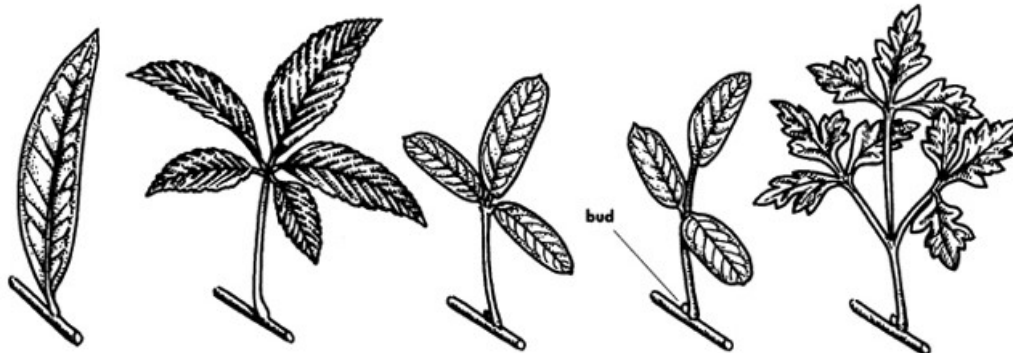


LEAF PARTS

ALTERNATE

OPPOSITE

WHORLED



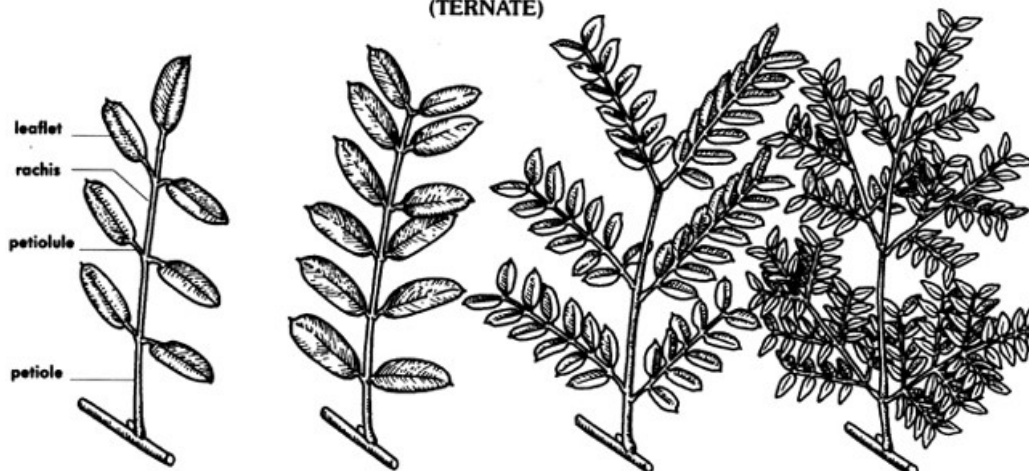
SIMPLE

PALMATELY
COMPOUND

PALMATELY
TRIFOLIOLATE
(TERNATE)

PINNATELY
TRIFOLIOLATE

BITERNATE



ODD-PINNATE

EVEN-PINNATE

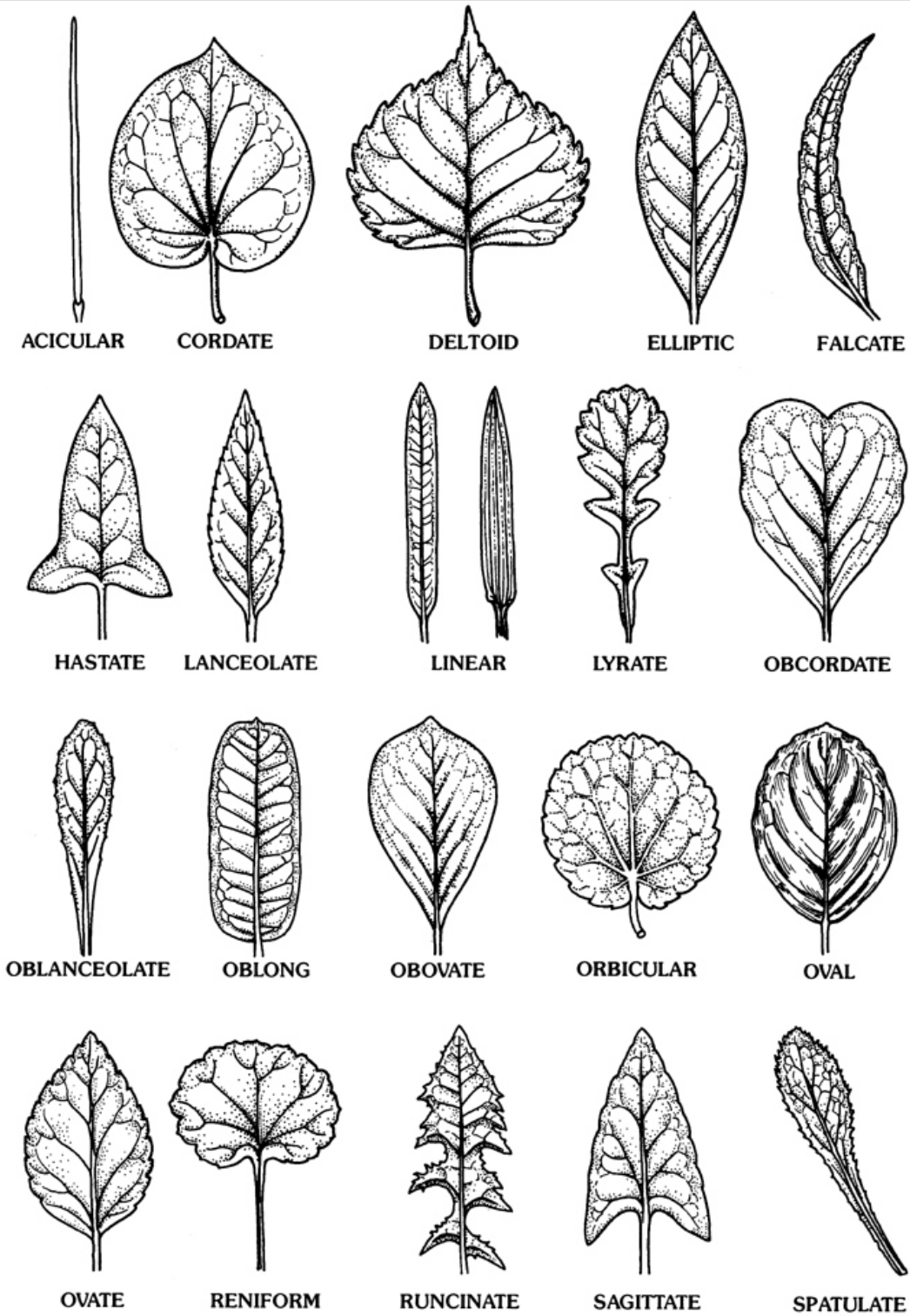
BIPINNATE

TRIPINNATE

as published in Swink, F. and G. Wilhelm. 1994. *Plants of the Chicago region*. 4th ed. Indianapolis: Indiana Academy of Science.

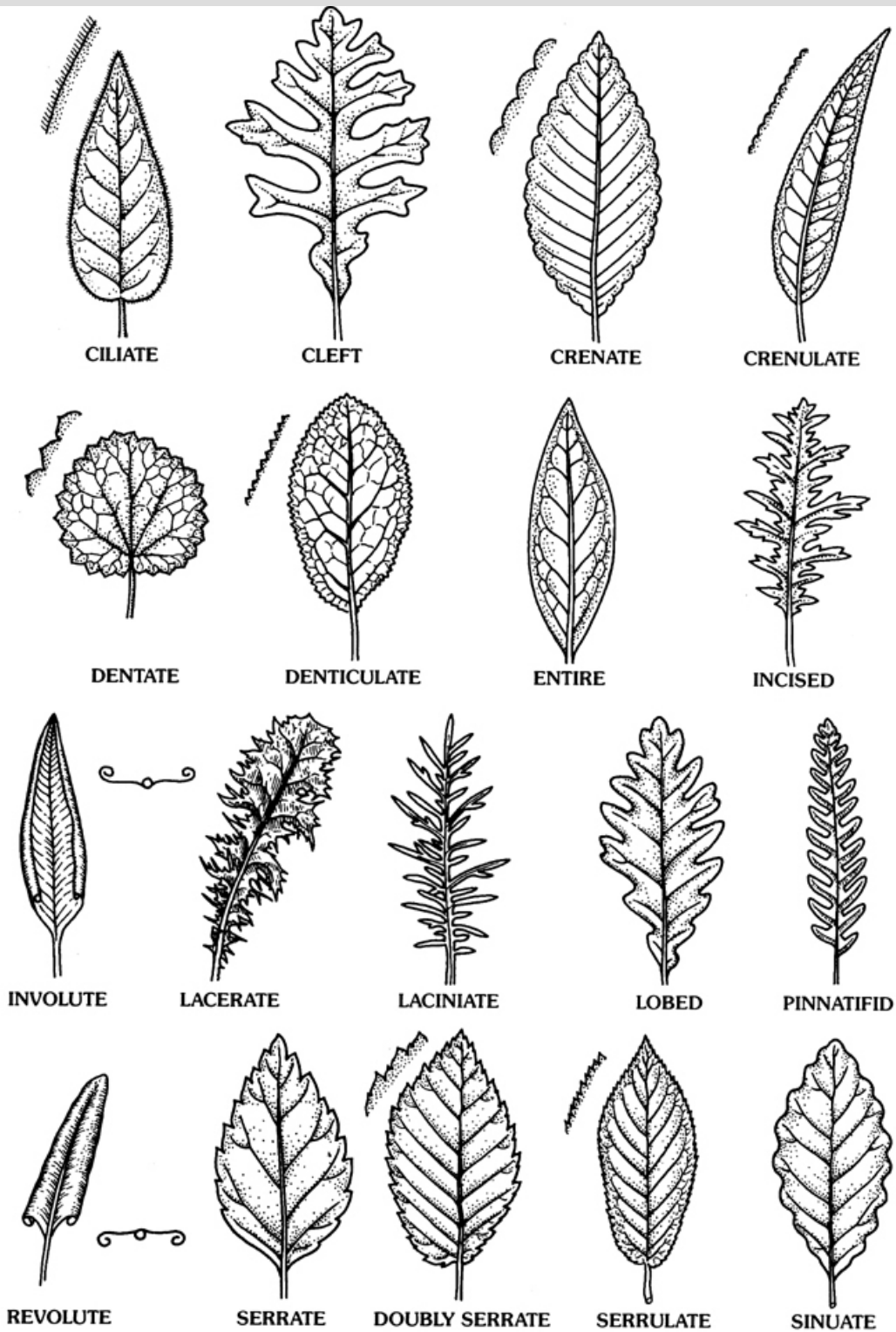
PLANT MORPHOLOGY

Leaf shapes: *this is in reference to overall leaf shape*



as published in Swink, F. and G. Wilhelm. 1994. *Plants of the Chicago region*. 4th ed. Indianapolis: Indiana Academy of Science.

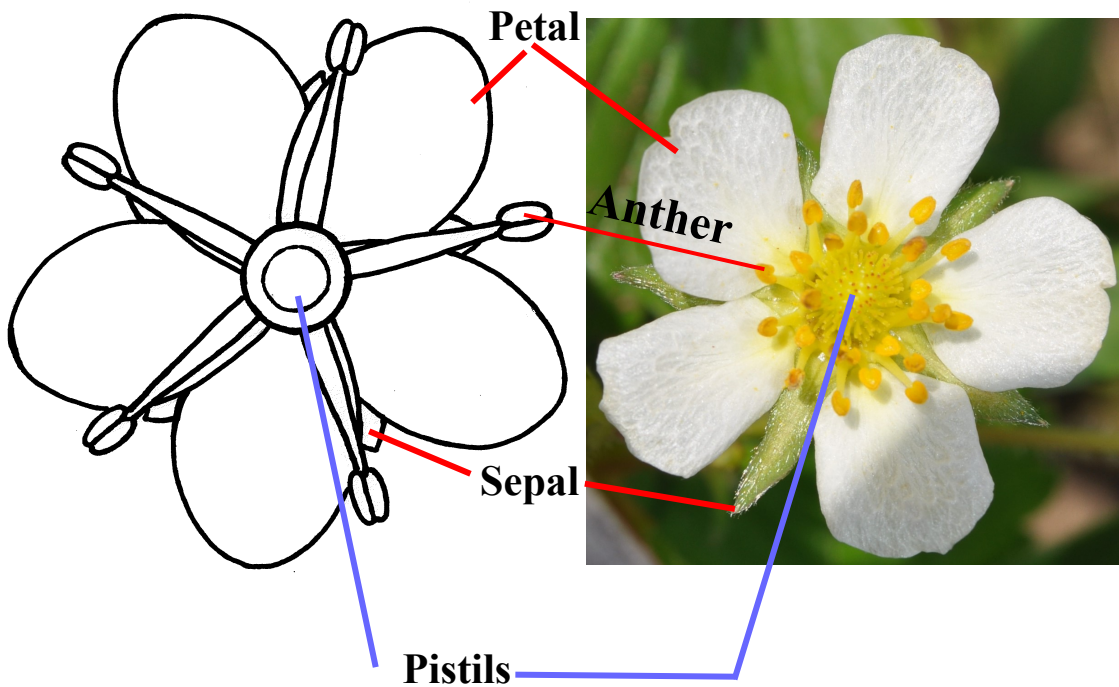
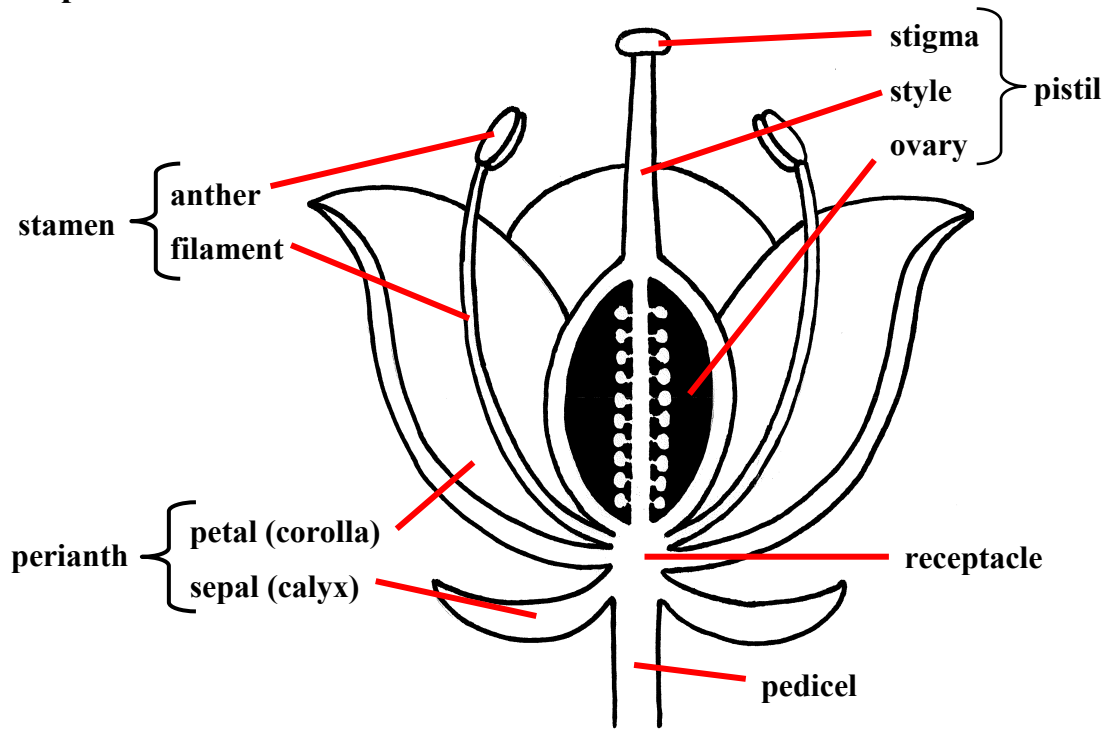
Leaf margins: *this in reference to the edges of a leaf*



as published in Swink, F. and G. Wilhelm. 1994. *Plants of the Chicago region*. 4th ed. Indianapolis: Indiana Academy of Science.

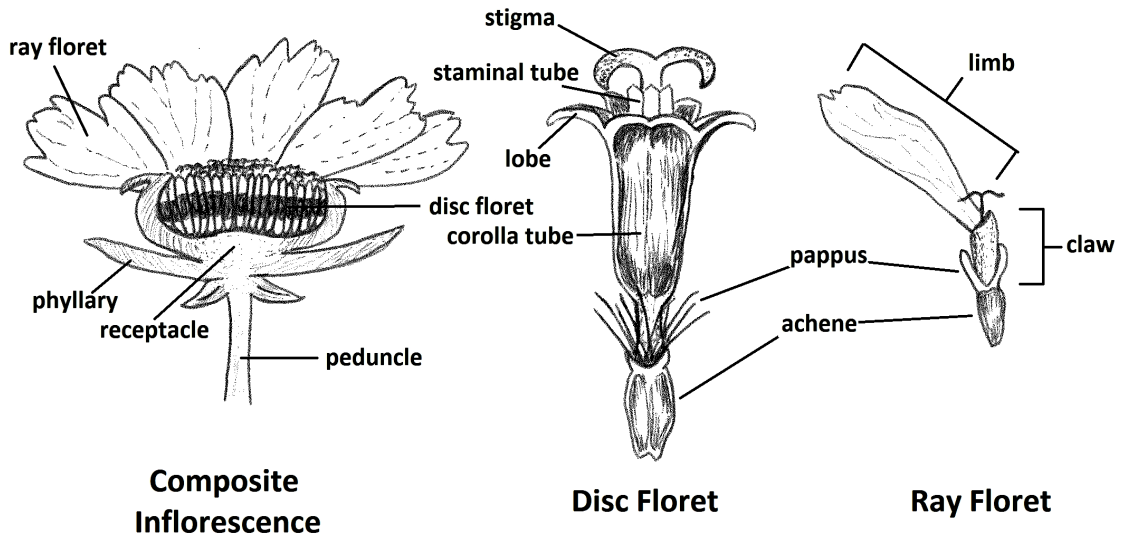
General Flower Morphology:

Simple flower:

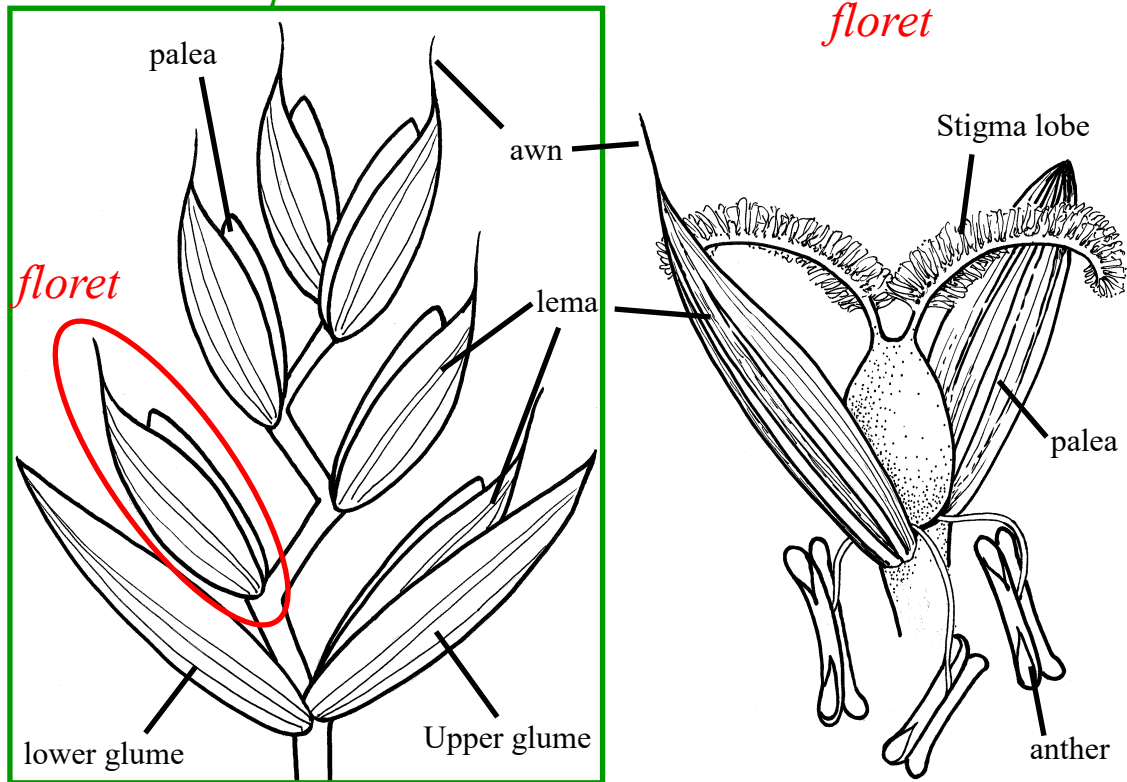


Complex Flower Morphology:

Sunflower:



Grass florets: *spikelet*

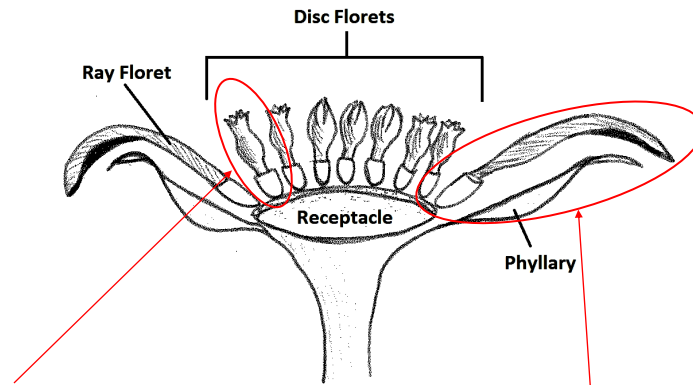


Sunflower Family (Asteraceae)

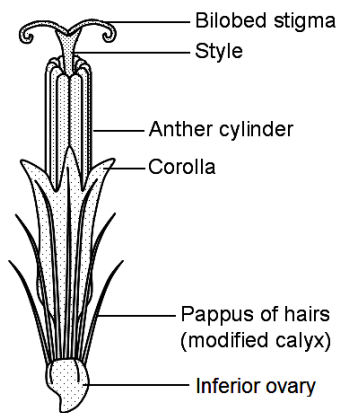
Sunflowers are easily recognized by their inflorescence (**flower head**), which is often confused as being a single flower. Closer inspection reveals that the flower head is actually composed of many small flowers (**florets**) attached to the flat top part of the stem (**receptacle**). They are sometimes called a “flower” of flowers.



There are two types of florets to be aware of: **disc florets** and **ray florets**

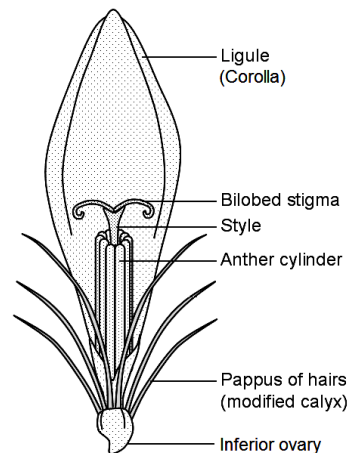


Disc floret:



- have regular symmetry
- have tubular, 5-lobed corollas

Ray floret:



- have irregular symmetry.
- have tubular corollas with long projections called **ligules**

SUNFLOWER FAMILY (ASTERACEAE)

Flowering head types

Sunflowers can be divided into three groups depending on the type of florets that make up the flowering head.

Ligulate Head

Flower head with only ray florets:

Crepis tectorum



Hieracium aurantiacum



Hieracium umbellatum



Discoide Head

Flower head with only disc florets:

Cirsium arvense



Matricaria discoidea



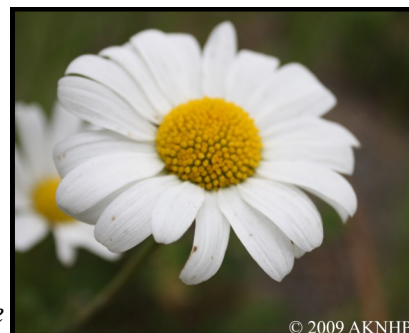
Tanacetum vulgare



Radiate Head

Flower head with both ray and disc florets:

Leucanthemum vulgare



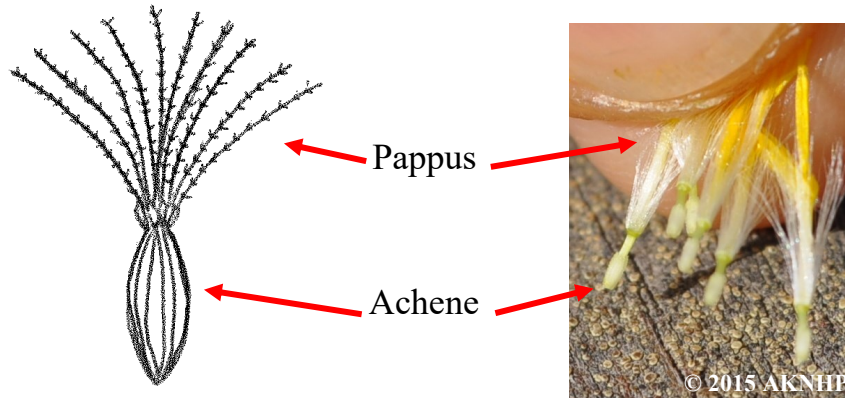
INTRODUCTION TO THE SUNFLOWER FAMILY

SUNFLOWER FAMILY (ASTERACEAE)

Some helpful terminology for plant parts in the Sunflower Family:

Pappus: A modified calyx forming a crown of awns, scales, hairs, or bristles at the summit of the achene; may be absent on some members of the family.

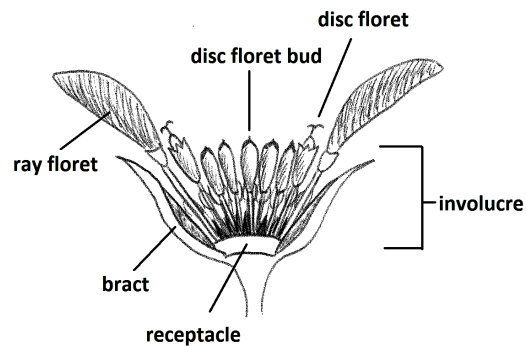
Achene: A small, dry, hard, single-seeded fruit, it may be flat or cylindrical.



Involucre: Whorls of bracts (small modified leaves) that enclose the flower; may be overlapping or not.



Receptacle: The expanded portion of the flower stalk that bears the organs of a flower; where the flowers attach. It may be flat, dome-shaped, or convex.



INTRODUCTION TO THE SUNFLOWER FAMILY

SUNFLOWER FAMILY (ASTERACEAE)

Common dandelion • *Taraxacum officinale* syn. *Taraxacum officinale* ssp. *officinale*

Invasiveness Rank: 58 points

Species Code: TAOF

General Information:

Perennial
5-50 cm tall

Description:

Stems

- Unbranched (unlike non-native *Leontodon* and *Hypochaeris*)
- Flowering stalks leafless and hollow

Leaves

- All leaves basal and lobed

Inflorescence

- Single (unlike *Leontodon* and *Hypochaeris*)
- Involucral bracts are:
 - not distinctly horned (unlike most native dandelions)
 - outer rows are reflexed or spreading (unlike most native dandelions)
 - not blackish-green (unlike some native dandelions)

Fruits

- Straw-colored achenes
- White pappus (unlike *Hypochaeris radicata*)

Habitat: disturbed areas

Distribution: widespread and abundant across the state; recorded in all three of Alaska's ecogeographic regions. The south-westernmost record is from Aniakchak National Monument and Preserve, the easternmost populations are on the Alaska-Canada border, and the north-westernmost populations are on the Dalton Hwy on the north side of Brooks Range



YELLOW RAY FLOWERS

SUNFLOWER FAMILY (ASTERACEAE)

Rock dandelion • *Taraxacum erythrospermum* syn. *Taraxacum erythrospermum*, *Taraxacum scanicum*

Invasiveness Rank: not yet ranked

Species Code: TAER3

General Information:

Perennial
5-50 cm tall

Description:

Stems

- Unbranched
- Flowering stalks leafless and hollow

Leaves

- All leaves basal with triangular lobes of relatively the same size

Inflorescence

- Involucral bracts with horns or tubercles (swelling/projection) below the tip

Fruits

- Brick-red achenes small (3 mm)

Habitat: roadsides, waste places, lawns

Distribution: only recorded in the Yukon Territory to date (along streets in Dawson and on the Alaska Highway east of Watson Lake)

Remarks: Non-native dandelions can grow side by side with native ones (*T. ceratophorum*). Pictured below: *Taraxacum officinale* grows among native



YELLOW RAY FLOWERS

Horned dandelion • *Taraxacum ceratophorum*
 syn. *Taraxacum officinale* ssp. *ceratophorum*

General Information:

Perennial
 15-45 cm tall

Description:

Small plants

Stems

- Unbranched

Leaves

- All leaves basal

Inflorescence

- Involucral bracts mostly with horns or tubercles below the tip (unlike *T. officinale*)
- Outer rows of involucral bracts generally appressed (unlike *T. officinale*)



Habitat: meadows, moist places in the mountains, disturbed sites, roadsides

Other native dandelions • *T. alaskanum*, *T. kamtschaticum*, *T. phymatocarpum*, *T. trigonolobum*, etc.

General Information:

Perennial
 Usually ≤ 15 cm

Description:

Small plants

Stems

- Unbranched

Leaves

- All leaves basal

Inflorescence

- Involucral bracts are blackish-green or horned (unlike *T. officinale*)

Fruits

- Brown to olivate, not brick-red like *T. erythrospermum*

Habitat: meadows and moist places in mountains (coastal



SUNFLOWER FAMILY (ASTERACEAE)

Hairy cat's ear • *Hypochaeris radicata*

Invasiveness Rank: 44 points

Species Code: HYRA3

General Information:

Perennial
15-30 cm tall

Description:

Stem

- Branched
- Lacking leaves but with scale-like bracts
- Milky juice

Leaves

- Perennial, basal rosette
- Deeply lobed, lobes rounded

Inflorescence

- Usually multiple
- Receptacle chaffy (with tiny scales or bracts)
- Involucral bracts not distinctly hairy
- White pappus

Fruits

- Achenes with long, slender beaks

Habitat: roadsides, lawns, pastures, waste places

Distribution:

- Pacific maritime: throughout southeast Alaska; within south-central Alaska it is only reported from Katmai and Kodiak
- Interior boreal: only recorded in Slana and Anchorage



YELLOW RAY FLOWERS

Fall dandelion • *Leontodon autumnalis*
syn. Leontodon autumnalis var. pratensis

Invasiveness Rank: 51 points

Species Code: LEAU2

General Information:

Perennial
 10-40 cm tall

Description:

Stem

- Usually branched
- Milky juice

Leaves

- Perennial, basal rosette
- Deeply toothed with acute lobes, especially the terminal lobe (unlike *Hypochaeris radicata*)

Inflorescence

- Usually multiple
- Naked receptacle
- Hairy bracts
- Yellowish-white or tan pappus

Fruits

- Beakless achenes

Habitat: roadsides, pastures, disturbed sites in lowland and montane zones

Distribution:

- Pacific maritime: less common than *Hypochaeris radicata* in the southeast; found in Cordova
- Interior boreal: Kenai Peninsula; along the Parks Hwy; in the vicinity of Chena Hot Springs
- Arctic-alpine: sparsely distributed to the north; west to Dillingham and Bethel



SUNFLOWER FAMILY (ASTERACEAE)

Yellow salsify • *Tragopogon dubius*

Invasiveness Rank: 50 points

Species Code: TRDU

General Information:

Biennial or perennial
30-90 cm tall

Description:

Stem

- Hollow and swollen below the flower head
- Milky juice

Leaves

- Linear, about 9 cm long

Inflorescence

- Involucral bracts are longer than the flowers (about 3.8 cm)

Fruits

- Fruiting head is globe-shaped, (6.4 to 10.2 cm across)

Habitat: roadsides, waste areas, steep slopes prone to geomorphologic disturbance

Distribution:

- Pacific maritime: Knik Arm on the Glenn Hwy; Turnagain Arm; Soldotna (Kenai Peninsula); in southeast AK only on Prince of Wales and in Sitka
- Interior boreal: Yukon Territory on the road between Haines and Haines Jct and on the Alaska Hwy by Watson Lake



YELLOW RAY FLOWERS

Field sowthistle • *Sonchus arvensis*

Invasiveness Rank: 73 points

Species Code: SOAR2

General Information:

Perennial
Woody stems
0.6-1.2 m tall

Description:

Roots

- Extensive rhizomes

Stem

- Glandular hairs on flower stalks and upper part of the stem
- Milky juice

Leaves

- Clasping at the base
- Basal lobes ear-shaped and small

Inflorescence

- Large (2.5-5 cm across)
- On each floret, the ligule is approximately equal in length to its closed tubular section
- Pappus mostly >1 cm long

Fruits

- 4-5 ribbed
- Dark brown

Habitat: roadsides, disturbed sites, old home sites, coves and beaches

Distribution:

- Pacific maritime: scattered throughout
- Interior boreal: northernmost records on the Dalton and Elliot Hwys near Livengood; also in vicinity of Delta

Remarks: There are two subspecies of *Sonchus arvensis*:

- *S. arvensis* ssp. *arvensis* has yellow, stalked, glandular hairs on stalks and stems below flower heads
- *S. arvensis* ssp. *uliginosus* has stalkless, glandular hairs



SUNFLOWER FAMILY (ASTERACEAE)

Common sowthistle • *Sonchus oleraceus*

Invasiveness Rank: 46 points

Species Code: SOOL

General Information:

Annual or biennial
Soft, hollow stems
≤ 1.5 m

Description:

Stem

- Milky juice

Leaves

- Clasping stem
- Margin sparsely prickly
- Basal lobes pointed; terminal lobe sharply triangular
- Upper surface bluish-green

Inflorescence

- Small (<2.5 cm across)
- Yellow glandular hairs sometimes present on flower stalks and bracts
- On each floret, the ligule is approximately equal in length to its closed tubular section
- Pappus mostly <1 cm long

Fruits

- 2-4 ribbed
- Dark brown

Habitat: highly disturbed sites and roadsides

Distribution:

- Pacific maritime: discrete populations in southeast Alaska
- Interior boreal: Anchorage and in the vicinity of Houston; northernmost records in Denali National Park and along the Parks Hwy



YELLOW RAY FLOWERS

Spiny sowthistle • *Sonchus asper*

Invasiveness Rank: 46 points

Species Code: SOAS

General Information:

Annual or biennial
Soft, hollow stems
0.3-1.2 m tall

Description:

Stem

- Milky juice

Leaves

- Clasping stem
- Margin very prickly
- Often without lobes; if lobed, basal lobes are recurved and clasping the stem, and the terminal lobe is broadly triangular
- Upper surface dark green and glabrous

Inflorescence

- Small (<2.5 cm across)
- Yellow glandular hairs sometimes present on flower stalks and bracts
- Ligules of ray florets are shorter than their tubes
- On each floret, the ligule is shorter than its closed tubular section
- Pappus mostly <1 cm long

Fruits

- 3 ribbed
- Strongly compressed
- Straw to reddish-brown colored

Habitat: highly disturbed sites, roadsides, mining areas

Distribution:

- Pacific maritime: in and south of Kake; Kodiak
- Interior boreal: Anchorage and one unconfirmed infestation south of Cantwell on the Parks Hwy



Wall lettuce • *Mycelis muralis*

Invasiveness Rank: 31 points

Species Code: MYMU

General Information:

Annual or biennial
60-90 cm tall

Description:

Roots

- Fibrous

Stems

- Erect
- Branched toward the top
- Glabrous to glaucous
- Milky juice

Leaves

- Basal and lower stem leaves 6-18 cm long and 2-8 cm wide, smooth, pinnately lobed, clasping at base
- Middle and upper stems leaves are smaller and few

Inflorescence

- Consists of 5 yellow, strap-shaped ray florets

Fruit

- Achenes black or brown with white pappus

Habitat: associated with natural or anthropogenic disturbances

Distribution: Pacific maritime, widespread in southeast Alaska



Distinguishing *Crepis* species from *Hieracium* species:

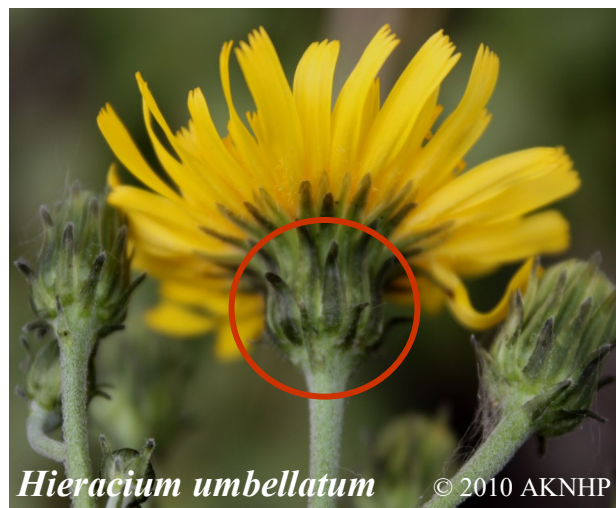
Similarities between *Crepis* species and *Hieracium* species in Alaska:

- Ray flowers only
- Leafy stems (unlike *Taraxacum* species)
- Leaves are not prickly (unlike *Sonchus* species)
- Flowers are yellow (unlike most native species with the aforementioned traits)

Differences between *Crepis* species and *Hieracium* species in Alaska:

- *Crepis* species with involucre bracts in two distinct rows that do not overlap
- *Hieracium* species with overlapping bracts of multiple lengths

Bract comparison



SUNFLOWER FAMILY (ASTERACEAE)

Narrowleaf hawksbeard • *Crepis tectorum*

Invasiveness Rank: 56 points

Species Code: CRTE3

General Information:

Winter annual
0.3-0.9 m tall

Description:

Stems

- Milky juice

Leaves

- Some form a basal rosette
- Stem leaves with extensions at the base that appear to clasp the stem = auricles
- Basal leaves toothed and curly edges, but become narrow, smaller, and entire as leaves are further up stem.

Inflorescence

- Involucral bracts arranged in two rows (see previous page)
- Involucral bracts densely hairy on the inside
- Usually many branches, though weak plants have relatively few branches (top left compared to bottom right).

Habitat: disturbed sites including forest clearings, abandoned fields, agricultural fields, pastures and roadsides

Distribution: widespread across the state;



YELLOW RAY FLOWERS

Native hawkbeards • *Crepis nana*, *Crepis elegans*

Description:

- Native *Crepis* species are much smaller and more slender than *Crepis tectorum*
- Involucral bracts are not hairy on the inside

Habitat: gravelly sites



Distribution:

- *Crepis elegans* is found at low to mid elevations in the Pacific maritime ecogeographic region (east and south of Anchorage), and in the interior boreal region (with emphasis on the eastern interior). There are a few collections from the Brooks Range.
- *Crepis nana* has a similar distribution as *C. elegans* but can grow at higher elevations and occurs in the arctic and in western Alaska. It has not been recorded in southeast Alaska.



SUNFLOWER FAMILY (ASTERACEAE)

Narrowleaf hawkweed • *Hieracium umbellatum* syn. *Hieracium scabriusculum*

Invasiveness Rank: 51 points

Species Code: HIUM

General Information:

Perennial
≥ 30 cm tall

Description:

Roots

- No stolons

Stems

- Leafy
- Milky juice

Leaves

- Lacking basal rosette
- Ovate to lanceolate
- Not densely hairy

Inflorescence

- Large (1-2 cm)
- Few heads per stalk
- Involucral bracts:
 - Dark green to black
 - Multiple lengths (unlike *Crepis tectorum*)
 - Not densely hairy (unlike many native *Hieracium* species)



Habitat: roadsides, forest edges and openings

Distribution:

- Pacific maritime: common in southeast Alaska up to the vicinity of Gustavus, Kenai Peninsula and Anchorage
- Interior boreal: scattered populations along Knik Arm and north to Denali National Park; vicinity of Fairbanks to Prospect Creek; at the start of the Taylor Hwy, near Tetlin Jct.



YELLOW RAY FLOWERS

SUNFLOWER FAMILY (ASTERACEAE)

Meadow hawkweed • *Hieracium caespitosum*

Invasiveness Rank: 79 points

Species Code: HICA10

General Information:

Perennial
≥ 30 cm tall

Description:

Roots

- Stolons with short white hairs
- Rhizomes

Stems

- Leafless or sometimes with 1-2 leaves on stem
- Milky juice

Leaves

- Basal rosette
- Ovate to lanceolate

Inflorescence

- 7+ flowering heads
- Involucral bracts are hairy and glandular

Habitat and distribution: roadsides, forest edges and openings in Anchorage (Interior boreal) and in Valdez; also along Knik Arm and the Kenai Peninsula (Pacific maritime)



Mouseear hawkweed • *Hieracium pilosella*

Invasiveness Rank: 63 points

Species Code: HIP1

General Information:

Perennial
≥ 30 cm tall

Description:

Roots

- Stolons

Stems

- Sticky hairs
- Unbranched and leafless
- Milky juice

Leaves

- Basal rosette
- Sticky hairs

Inflorescence

- Solitary or rarely 2-3 heads



Habitat and distribution: landscaped areas on the Kenai Peninsula and along roadsides on Prince of Wales Island; southeast Alaska

YELLOW RAY FLOWERS

Native hawkweeds • *Hieracium triste* and *Hieracium gracile*

General Information:

Generally ≥ 30 cm tall

Description:

Generally < 30 cm tall

Roots

- No stolons (unlike *H. pilosella* and *H. caespitosum*)

Leaves

- Basal rosette of long stalked leaves
- Stems with 2-3 reduced linear leaves (unlike *H. umbellatum*)

Inflorescence

- Small (< 1 cm, unlike *H. umbellatum*)
- 2-10 globular flower heads (rarely 1)
- Involucral bracts often densely hairy

Habitat: high elevations, rocky slopes, stream sides, subalpine meadows

Distribution:

- *H. triste*: predominantly recorded in the Pacific maritime ecogeographic region (southeast and south-central to the Aleutian Islands), but also known from western Alaska and the Alaska Range
- *H. gracile*: merged into *H. triste* by some authors, but otherwise distinguished by the presence of glandular hairs and by red (instead of black) achenes. Found in alpine environments, mainly in the Pacific maritime ecogeographic region, with some populations recorded in western Alaska.



Hieracium triste

© Al Schneider



Hieracium gracile

© Walter Siegmund

SUNFLOWER FAMILY (ASTERACEAE)

Orange hawkweed • *Hieracium aurantiacum*

Invasiveness Rank: 79 points

Species Code: HIAU

General Information:

Perennial
Up to 30 cm
Forms dense mats

Description:

Stem

- Dark-colored hairs
- Milky juice

Roots

- Rhizomes and stolons

Leaves

- Basal rosette
- No leaves on stems
- White hairs

Inflorescence

- Orange



Habitat: one of the few non-native plants able to establish in organic soils and/or in sub-alpine habitats; meadows, rangelands, pastures, forest borders, roadsides, dis-

Orange agroseris • *Agroseris aurantiaca*



The only other orange-flowered aster in Alaska

Similarities:

- Both with ray florets
- Both with orange florets (but turning purple in older *A. aurantiaca* plants)
- Stems leafless (occasional exceptions in *H. aurantiacum*)

Differences:

- *H. aurantiacum*: >1 flowering heads per stalk, distinct long black hairs along stem and runners
- *A. aurantiaca*: single flowering head per stalk, hairless or with few hairs, no runners, rare to Alaska

Habitat and distributions:

- *H. aurantiacum*: disturbed sites and adjacent areas; in other parts of the world this species invades alpine areas, so it could potentially co-occur with *A. aurantiaca* in southeast Alaska
- *A. aurantiaca*: alpine meadows, moist open woodlands, glacial till; only known from SE Alaska

ORANGE RAY FLOWERS

SUNFLOWER FAMILY (ASTERACEAE)

Common tansy • *Tanacetum vulgare* syn. *Chrysanthemum vulgare*

Invasiveness Rank: 60 points

Species Code: TAVU

General Information:

Perennial,
Up to 1.2 m tall

Description:

Stem

- Woody
- Purplish-red

Leaves

- Twice-divided into narrow, toothed segments
- Strong odor when crushed

Inflorescence

- Numerous, button-like flower heads

Habitat: roadsides, ditches, streams;
beach meadows in Haines

Distribution: Pacific maritime and interior boreal; northernmost infestation is near Prospect Creek, south of Coldfoot; westernmost populations are in King Salmon and Kodiak; easternmost is in Glennallen

Remarks: For descriptions of yellow-flowered *Senecio sylvaticus* and *Senecio vulgaris*, which can resemble *Tanacetum vulgare*, see “Yellow ray and disc florets” section.



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Pineappleweed • *Matricaria discoidea*
*syn. *Matricaria matricarioides**

Invasiveness Rank: 32 points

Species Code: MADI6

General Information:

Annual
<30 cm tall

Description:

Leaves

- Divided several times into narrow segments
- Strong odor when crushed, similar to chamomile

Inflorescence

- Cone-shaped flowers
- Greenish-yellow

Habitat: compacted soils of roadsides, farmyards and waste areas

Distribution: all three ecogeographic regions

Remarks: For descriptions of yellow-flowered *Senecio sylvaticus* and *Senecio vulgaris*, which can resemble *Matricaria discoidea*, see “Yellow ray and disc floret” section.



Ragworts and Groundsels • *Senecio* species

Description:

Stems

- Leafy
- Hollow

Leaves

- Alternate

Inflorescence

- Generally have disc and ray florets; sometimes rays are greatly reduced
- Ray florets are yellow



Differences between *Senecio* spp. and similar-looking native genera:

Leafy stems; ray florets pink, purple, red, blue, or white

- Bracts in multiple rows*Aster*
- Bracts in a single row*Erigeron*

Leafy stems; ray florets yellow or orange

- At least basal stem leaves opposite*Arnica*
- All leaves alternate
 - Flower heads small and numerous; involucre bracts imbricate or in multiple overlapping rows*Solidago*
 - Flower heads large and few; involucre bracts in a single row*Senecio*

Differences between non-native *Senecio* species and similar-looking native *Senecio* species:

Most native *Senecio* spp. have a basal rosette of leaves. Only *S. pseudo-arnica*, *S. sheldonensis*, and *S. triangularis* lack basal leaves; these plants are restricted to south-coastal and southeast Alaska and are large, distinctive plants.

Most non-native *Senecio* species:

- Are annual plants with basal leaves withering before or soon after flowering so that they may appear to lack a basal rosette
- Have no ray florets, or if they are present, they are <2 mm long and often coiled

Stems and leaves are hairy:

- 1a. With viscid, sticky hairs*S. viscosus*
- 1b. Hairy but not with viscid, sticky hairs
 - 2a. 2-6 involucre bracts with black tips*S. vulgaris*
 - 2b. 0 or 1-5+ involucre bracts with green tips*S. sylvaticus*

SUNFLOWER FAMILY (ASTERACEAE)

Tansy ragwort • *Senecio jacobaea*

Invasiveness Rank: 63 points

Species Code: SEJA

General Information:

Biennial or short-lived perennial
1.2-1.8 m tall

Description:

Roots

- Taproot

Stems

- Short wooly hairs

Leaves

- Short wooly hairs
- Lower leaves wither soon after flowering (no distinct basal rosette)
- Pinnate, deeply dissected 1-3 times

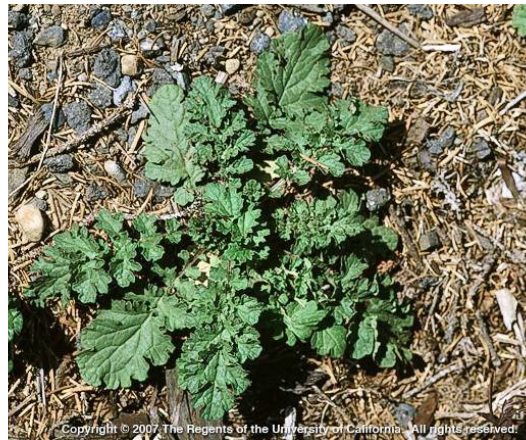
Inflorescence

- 10-13 ray florets, 6-12 mm long
- Involucral bracts with black or green tips

Habitat: roadsides, disturbed places

Distribution:

- Pacific maritime: Kodiak, southeast Alaska
- Interior boreal: Anchorage



YELLOW RAY AND DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Common groundsel • *Senecio vulgaris*

Invasiveness Rank: 36 points

Species Code: SEVU

General Information:

Annual
Up to 60 cm tall

Description:

Roots

- Taproot

Stems

- Glabrous or with sparse short hairs

Leaves

- Glabrous or with sparse short hairs
- Deeply lobed to toothed

Inflorescence

- 8-20 per stem
- 2-6+ involucral bracts with black tips
- Only yellow disc florets; no ray florets

Habitat: roadsides, disturbed sites

Distribution:

- Pacific maritime: predominantly southeast but also in Cordova, Kenai Peninsula and Kodiak
- Interior boreal: along the Richardson, Glenn and Parks Hwys; Anchorage, Mat-Su Valley, Delta Junction and Fairbanks
- Northern and westernmost infestation is near Unalakleet



YELLOW RAY AND DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Woodland ragwort • *Senecio sylvaticus*

Invasiveness Rank: 41 points

Species Code: SESY

General Information:

Annual
Up to 0.8 m tall

Description:

Roots

- Fibrous taproot

Stems

- Abundant curly hairs (not glandular)

Leaves

- Abundant curly hairs
- Pinnately divided once or twice

Inflorescence

- 12-24 per stem
- Involucral bracts green-tipped or minutely black
- Ray florets absent or 1-8 and very short (1-2 mm)

Habitat: disturbed sites

Distribution: only recorded in Anchorage and along the Klondike Hwy



Sticky ragwort • *Senecio viscosus*

Invasiveness Rank: not yet ranked

Species Code: SEVI2

General Information:

Annual
Up to 0.5 m tall
Foul-smelling
Viscid, sticky hairs

Description:

Roots

- Taproot

Stems

- Glandular hairs

Leaves

- Pinnately dissected to pinnatifid
- Glandular hairs

Inflorescence

- 1-30 per stem
- Black-tipped bracts
- ±13 Ray florets, usually reflexed

Habitat: disturbed sites, especially in open sand or gravel sites

Distribution: only recorded near Haines and in Seward



YELLOW RAY AND DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Oxeye daisy • *Leucanthemum vulgare* syn. *Chrysanthemum leucanthemum*

Invasiveness Rank: 61 points

Species Code: LEVU

General Information:

Perennial
0.3-1.2 m tall

Description:

Leaves

- <10 cm long
- Spoon-shaped
- Coarsely or irregularly toothed
- May be withered by flowering time
- Leaf base clasping stem

Inflorescence

- White ray florets
- Yellow disc florets

Habitat: roadsides, meadows, clear cuts, disturbed sites

Distribution: all three ecogeographic regions; north to Coldfoot, west to Nome.



Shasta daisy • *Leucanthemum xsuperbum*

Invasiveness Rank: not yet ranked

Species Code: LEMA8

General Information:

Annual
Up to 0.9 m tall
This is a hybrid of *Leucanthemum maximum* and *Leucanthemum lacustre*, cultivated as a garden plant

Description:

Stems

- Unbranched

Leaves

- Lance-shaped with shallow dentate margins
- Up to 20 cm long
- Leaf base clasping stem



Habitat and distribution: mainly in southeast Alaska, some records in Anchorage

WHITE RAY AND YELLOW DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Stinking chamomile • *Anthemis cotula*

Invasiveness Rank: 41 points

Species Code: ANCO2

General Information:

Annual
15-60 cm tall

Description:

Leaves

- Foul smelling when crushed
- Glandular-dotted

Inflorescence

- Receptacles papery or bristly at the middle

Habitat: waste areas, roadsides

Distribution:

- Pacific maritime: southeast, Kenai Peninsula
- Interior boreal: Anchorage

Remarks: May superficially resemble *Arcanthemum arcticum* and/or *Chrysanthemum integrifolium* — native species that differ in leaf shape.



WHITE RAY AND YELLOW DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Arctic daisy • *Chrysanthemum integrifolium* syn. *Hulteniella integrifolia* (Richardson) Tzvelev

General Information:

Perennial
Up to 20 cm tall
Cespitose

Description:

Stems

- Soft-pubescent

Leaves

- Linear
- Mostly basal

Inflorescence

- Heads solitary
- Involucral bracts white-pubescent

Habitat: Gravelly slopes, solifluction soil

Distribution:

- Arctic Alpine: Brooks Range and north to coast
- Interior boreal: Seward Peninsula, White Mountains



Arctic daisy • *Arctanthemum arcticum* syn. *Chrysanthemum arcticum*

General Information:

Perennial
Up to 30 cm tall
Low growing

Description:

Leaves

- Triangular to wedge-shaped, densely hairy at the base
- Fleshy

Habitat and distribution: coastal marshes, rocky shores



WHITE RAY AND YELLOW DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Scentless chamomile • *Tripleurospermum inodorum* syn. *Tripleurospermum perforata*

Invasiveness Rank: 48 points

Species Code: TRIN11

General Information:

Annual
≥ 0.9 m tall

Description:

Leaves

- Narrowly dissected
- Odorless when crushed

Inflorescence

- Receptacles naked
- Involucral bracts with light brown, narrow, scarios margins

Habitat: roadsides, lawns, waste areas, irrigation ditches, shorelines, streams, pond edges

Distribution: all three ecogeographic regions; Seward Peninsula is the northern and western limit.



False mayweed • *Tripleurospermum maritimum*

General Information:

Annual, biennial, or perennial
0.1-0.6 m tall

Description:

Inflorescence

- White ray florets fall off early
- Receptacles naked
- Involucral bracts with dark brown, broad, scarios margins

Habitat and distribution: seashores in northwestern and arctic Alaska



WHITE RAY AND YELLOW DISC FLORETS

Creeping thistle, Canada thistle • *Cirsium arvense*

Invasiveness Rank: 76 points

Species Code: CIAR4

General Information:

Perennial
0.3-1.2 m tall

Description:

Roots

- Extensive creeping rhizomes

Stem

- Not winged (unlike *C. vulgare*)

Leaves

- Lobes spiny
- Hairless above and hairless or hairy below

Inflorescence

- Narrow (1 cm), unlike native *Cirsium* species)
- Purplish-pink
- Involucral bracts with spiny points but no spines (unlike *C. vulgare*)

Habitat: roadsides, forest edges, forest openings

Distribution:

- Pacific maritime: primarily in this region; southeast Alaska, Kenai Peninsula, Kodiak
- Interior boreal: few records from Anchorage, Girdwood, near Portage and near Palmer



PURPLISH DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Bull thistle • *Cirsium vulgare*

Invasiveness Rank: 61 points

Species Code: CIVU

General Information:

Biennial,
0.9-1.5 m tall

Description:

Roots

- Deep, fleshy taproot

Stems

- Spiny wings (unlike native *Cirsium* species)

Leaves

- Prickly hairs above, cottony below

Inflorescence

- Large heads, up to 3.8 cm across (unlike *C. arvense*)
- Involucral bracts spine-tipped
- Dark purple flowers

Habitat: roadsides, disturbed sites

Distribution: similar distribution to *C. arvense* but more restricted (primarily in the Pacific maritime region with only a minor presence in the interior boreal region)



PURPLISH DISC FLORETS

Native thistles ● *Cirsium* species

Description:

Stems

- Not winged (unlike *C. vulgare*)

Inflorescence

- >1 cm across (unlike *C. arvense*)
- Involucral bracts with spiny points but no distinct spines (unlike *C. vulgare*)

Habitat and distributions:

- *C. kamtschaticum*: meadows; Aleutians
- *C. foliosum*: meadows; Yukon, potentially to Haines and Skagway, tip of southeast AK
- *C. edule*: wet meadows, woods; Yukon and potentially to Haines and Skagway, tip of southeast AK



Cirsium edule



Cirsium kamtschaticum



Cirsium foliosum

PURPLISH DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Spotted knapweed • *Centaurea stoebe* syn. *C. biebersteinii*, *C. maculosa*

Invasiveness Rank: 86 points

Species Code: CEST8

General Information:

Biennial or short-lived perennial
0.3-1.2 m tall

Description:

Stem

- Sandpapery texture

Leaves

- Sandpapery texture
- Lower leaves are irregularly lobed
- Upper leaves are entire
- Leaves covered with translucent dots

Inflorescence

- Purple, occasionally white
- Involucral bracts are black-tipped and not spiny



Habitat: highways, waterways, railroads, pipelines

Distribution:

- Pacific maritime: southeast, Kenai, Kodiak, Turnagain Arm, Valdez
- Interior boreal: Anchorage

Remarks: Non-native *Centaurea* species in Alaska species lack spiny leaves unlike *Cirsium* species. There are no native species of knapweed in Alaska.



PURPLISH DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Perennial cornflower • *Centaurea montana*

Invasiveness Rank: 46 points

Species Code: CEMO

General Information:

Perennial
0.3-0.6 m tall

Description:

Roots

- Stolons, forms clumps

Leaves

- Entire, lanceolate

Inflorescence

- Outermost florets large and blue-purple



Habitat: garden escapee; roadsides, disturbed areas, woodlands

Distribution: Pacific maritime and interior boreal; similar distribution to *C. stoebe* but more restricted



PURPLISH DISC FLORETS

SUNFLOWER FAMILY (ASTERACEAE)

Garden cornflower • *Centaurea cyanus*

Invasiveness Rank: not yet ranked

Species Code: CECY2

General Information:

Annual
0.2-1 m tall

Description:

Stems

- Usually a single erect stem
- Somewhat wooly

Leaves

- Loosely grey-wooly
- Basal leaves linear-lanceolate, 3-10 cm long, margins mostly entire
- Stem leaves are linear and entire

Inflorescence

- Usually blue, sometimes white or purple (1.0-2.5 cm across)

Habitat: garden escapee; grasslands, woodlands, forests, roadsides, disturbed sites

Distribution: only two known occurrences in Anchorage and Kodiak



PURPLISH DISC FLORETS

Remarks on *Saussurea* species in Alaska:

There are no native species of *Centaurea* in Alaska. However, *Centaurea* species resemble native *Saussurea* species (saw-worts).

Saussurea species can be distinguished from *Centaurea* species by their:

- Unbranched stems(*C. montana* may also be unbranched or sparsely branched; *C. stoebe* is usually branched)
- Linear to lance-shaped leaves that are not lobed, toothed, or pinnately divided (although *Centaurea montana* leaves are ovate to lanceolate and are also not pinnately divided)
- Pappus is a long, feathery plume (Pappus of *Centaurea* spp. is comprised of stiff bristles)
- Heart shaped leaves in *S. americana*

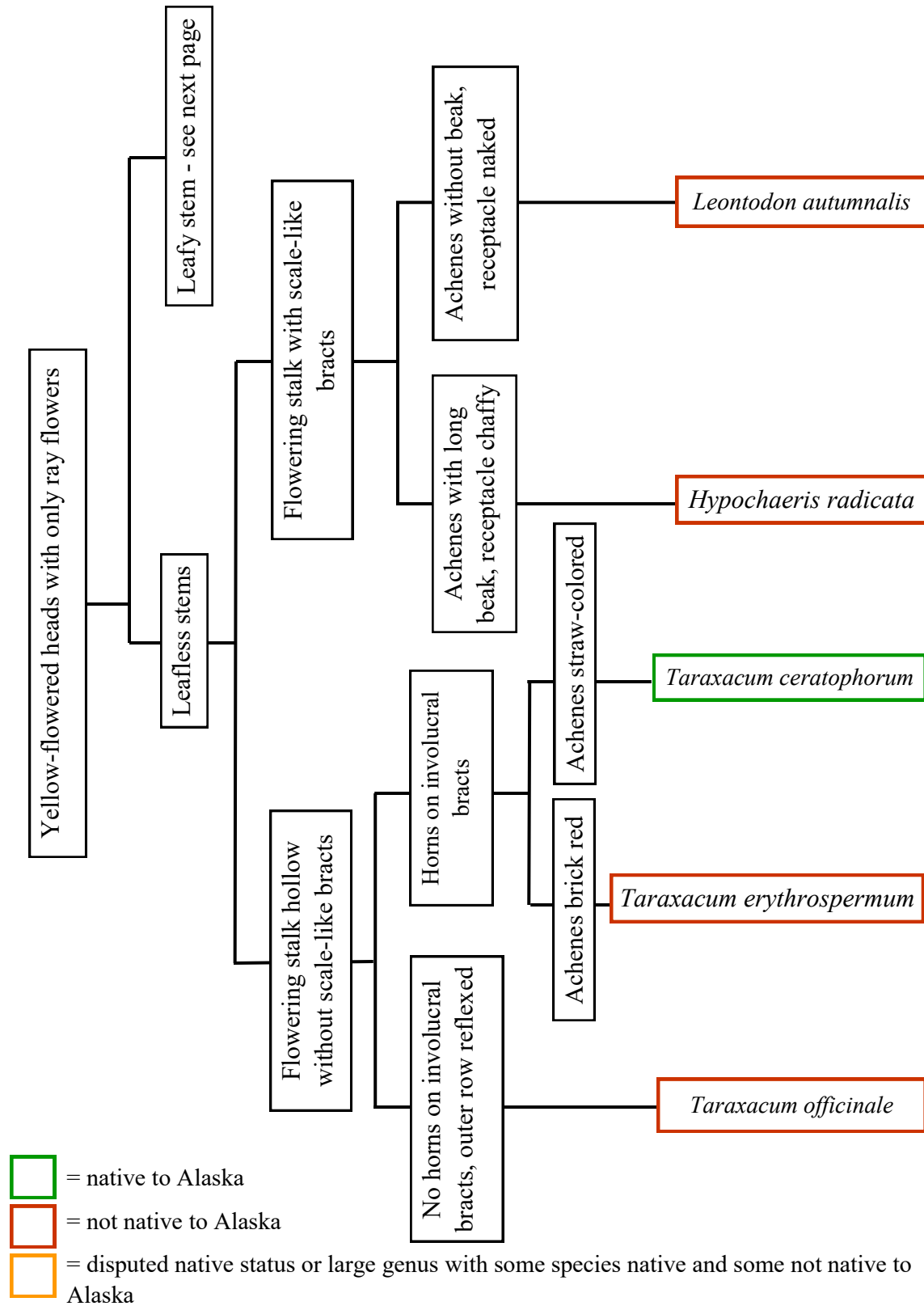
Habitat and distributions:

- *S. americana*: southeast Alaska
- *S. angustifolia*: dry places on tundra and in the mountains
- *S. nuda*: seashores, alpine meadows; western Alaska
- *S. viscida*: arctic-alpine and interior boreal



Saussurea angustifolia

SUNFLOWER FAMILY (ASTERACEAE)



= native to Alaska



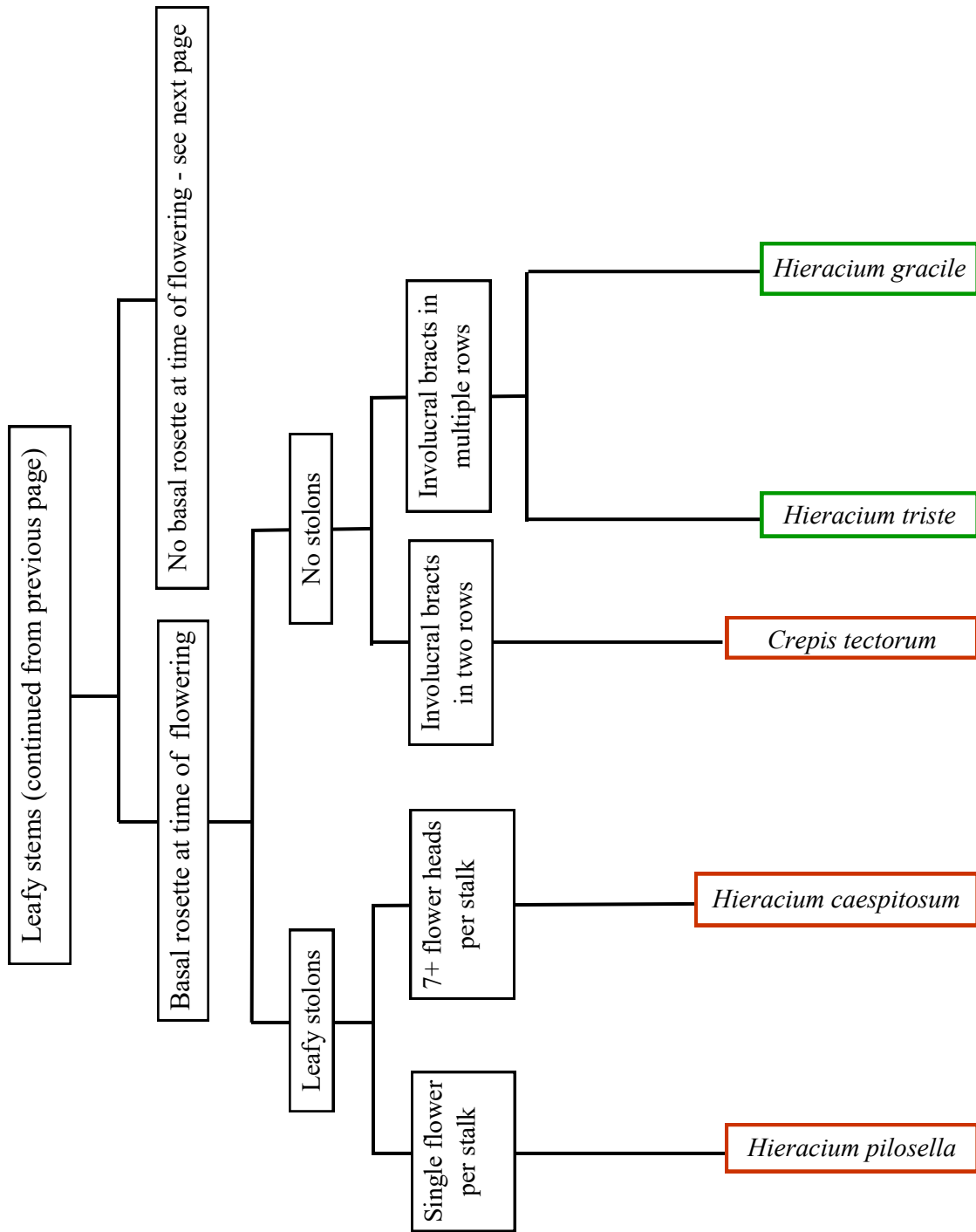
= not native to Alaska



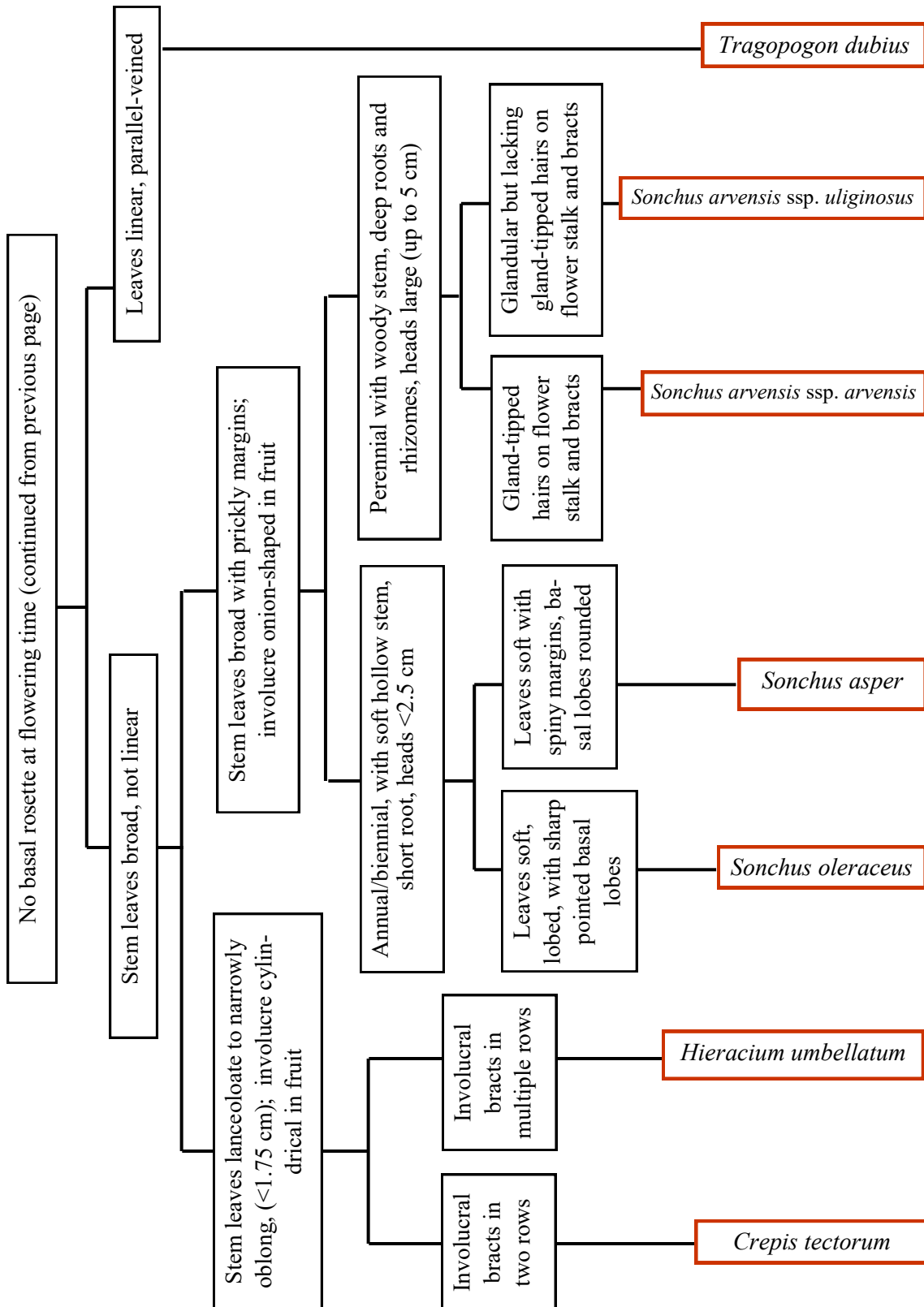
= disputed native status or large genus with some species native and some not native to Alaska

KEY TO YELLOW-FLOWERED ASTERS OF DISTURBED HABITATS IN AK

SUNFLOWER FAMILY (ASTERACEAE)



SUNFLOWER FAMILY (ASTERACEAE)



KEY TO YELLOW-FLOWERED ASTERS OF DISTURBED HABITATS IN AK