

Oxeye Daisy



Leucanthemum vulgare Lam.

Alternate names

White daisy

Synonyms

Chrysanthemum leucanthemum L., *Chrysanthemum leucanthemum* L. var. *boecheri* Boivin, *Chrysanthemum leucanthemum* L. var. *pinnatifidum* Lecoq & Lamotte, *Leucanthemum leucanthemum* (L.) Rydb., *Leucanthemum vulgare* Lam. var. *pinnatifidum* (Lecoq & Lamotte) Moldenke

Description

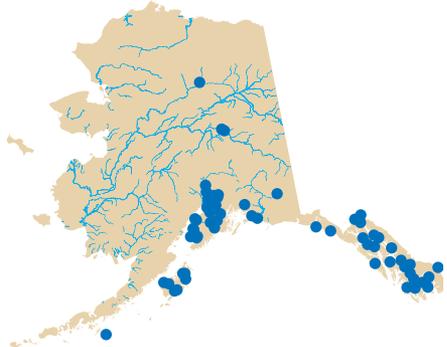
Oxeye daisy is a shallow-rooted perennial plant with numerous stems from 1–3 feet tall. Stalked basal leaves are spatula-shaped, broadly and irregularly lobed, 2–5 inches long, and 2 inches wide. The stem leaves are alternate, smooth, and glossy, becoming progressively smaller towards the top. The leaf stalks are short and clasp the stem. Solitary flowerheads at the ends of stems are 1–2 inches in diameter and composed of white ray florets and yellow disc florets. Seeds have no pappus.



National Park Service photo
by Penny Bauder

Similar Species

In Alaska, the native arctic daisy (*Dendranthema arcticum* (L.) Tzvelev) could be confused with oxeye daisy but is confined to rocky seashores and estuaries throughout coastal Alaska and is more low-growing, with wedge-shaped rather than spatula-shaped basal leaves. Shasta daisy (*Leucanthemum maximum* (Ramond) DC.) is a commonly cultivated garden flower that has lanceolate leaves up to 9 inches long with shallow teeth along the margins. All other



Alaskan composite species with white ray florets have either entire leaves or highly dissected leaves.

Ecological Impact

Seemingly an innocuous wildflower, oxeye daisy is invasive in natural habitats in many locations. Often included in wildflower seed mixes, it is widely planted and easily escapes cultivation, out-competing and displacing native species. It can form dense colonies, decreasing overall vascular plant diversity, and can quickly replace up to 50% of the grass species in pastures (Royer and Dickinson 1999). The entire plant has a disagreeable odor, grazing animals avoid it, and it contains chemicals that are highly toxic to most insect herbivores. Oxeye daisy can host various plant diseases, including chrysanthemum stunt, aster yellows, tomato aspermy viruses, and several nematode species (Royer and Dickinson 1999). Dense infestations increase the potential for soil erosion.

Biology and Invasive Potential

Oxeye daisy is a perennial plant that flowers in the second year and can spread both vegetatively and by seed. It is primarily insect-pollinated by insects from a number of orders. A single plant normally produces 1,300 to 4,000 fruits (Howarth and Williams 1968). Estimates of the duration of seed viability vary widely, but most exceed 20 years. Fruits lack the elongated pappus necessary for wind dispersal but can be transported in dung, with timber products, in contaminated forage grass, and in legume seed batches. Seedling germination is greatest in high moisture conditions and is inhibited by continuous darkness. Dense groundcover can prevent establishment,



USDA Forest Service photo by Tom Heutte

while chilling and drought appear to have no effect on germination rates. No cold-stratification is required for germination, and it withstands temperatures to -28°F . It requires 130 frost-free days for reproduction (GRIN 2004). Oxeye daisy is adapted to coarse and medium textured soils with pH levels ranging from 5.2 to 7.0. Cutting, mowing, trampling, and grazing promote establishment. Oxeye daisy continues to be used as a component in wildflower seed mixes, despite its listing as a noxious weed in eight states and four Canadian provinces.

Distribution and Abundance

Introduced from Europe as an ornamental, oxeye daisy has escaped cultivation and is now common outside of Alaska in native grasslands, pastures, beach meadows, waste areas, and roadsides. It is a serious weed of 13 crops in 40 countries and is found in every state in the United States. It was introduced to the Pacific Northwest in the late 1800s from its native range in Europe (Mediterranean to Scandinavia) and Siberia. Populations have established in eastern Asia, Iceland, Greenland, North and South America, Hawaii, Australia, and New Zealand (Hultén 1968). The first documented occurrence in Alaska was near Ketchikan in 1963 (ALA 2004). It is now common around communities in southeast and southcentral Alaska and has been found in Fairbanks, McCarthy, and Afognak in addition to a number of remote locations around the state (AKEPIC Database 2004).



XIID Services photo by Richard Old

Management

Hand-pulling and mechanical control can be effective for small infestations if repeated over multiple years, and treatments should be completed before seed production and regularly monitored afterward. For lawns or other

level ground, regular mowing will control this species. Several herbicides will control oxeye daisy, but they are not selective. In eastern Washington, application of nitrogen fertilizer was found to be almost as effective as herbicide application for reducing its canopy cover in mountain meadows (NWCB 2000). No effective biological control agents have been identified for oxeye daisy.

Notes

Taxonomists have placed oxeye daisy in the genus *Leucanthemum* and *Chrysanthemum* at different times. Its seeds can remain viable after passing through the digestive tracts of animals. The plant has been employed successfully in the treatment of whooping cough, asthma, and “nervous excitability.”