

mayweed chamomile

Anthemis cotula L.

Synonyms: *Anthemis foetida* Lamarck, *Chamaemelum cotula* (Linnaeus) Allioni, *Maruta cotula* (L.) DC.
Other common names: chamomile, dog fennel, mayweed, mayweed dogfennel, stinking chamomile, stinkweed
Family: Asteraceae

Invasiveness Rank: 41 The invasiveness rank is calculated based on a species' ecological impacts, biological attributes, distribution, and response to control measures. The ranks are scaled from 0 to 100, with 0 representing a plant that poses no threat to native ecosystems and 100 representing a plant that poses a major threat to native ecosystems.

Description

Mayweed chamomile is an annual, bushy, branched, and ill-scented herb that grows 15 to 61 cm tall from a taproot. Leaves are several times divided into narrow segments. Flower heads are 19 mm in diameter. They are solitary at the ends of branches and in leaf axils. Involucral bracts are papery in texture. Ray flowers are white and up to 13 mm long. Each flower head usually has 12 ray flowers. Disk flowers are yellow and numerous. Seeds are slightly flattened, ribbed, glandular, and bumpy. They lack pappi (Douglas et al. 1998, Whitson 2000).



Anthemis cotula L. Photo by C. Witham.

Similar species: Mayweed chamomile is often confused with scentless chamomile (*Tripleurospermum*

inodorum). Unlike mayweed chamomile, scentless chamomile does not have a strong odor when crushed and has three-ribbed seeds. Oxeye daisy (*Leucanthemum vulgare*) can be distinguished by its lobed, rather than narrowly dissected, leaves. Pineappleweed (*Matricaria discoidea*) is similar to mayweed chamomile. It can be distinguished from mayweed chamomile by the absence of white ray florets in the flower heads.

Ecological Impact

Impact on community composition, structure, and interactions: Mayweed chamomile is unpalatable to grazing animals. The flowers are visited and pollinated mainly by syrphid flies and other flies. Mayweed chamomile is known to hybridize with two other weedy species: scentless chamomile and yellow chamomile (*Cota tinctoria*). Some species of weevils feed on mayweed chamomile. Mayweed chamomile can be seriously infected by pathogenic fungi (Kay 1971). It is potentially allelopathic to certain forage species (Smith 1990).

Impact on ecosystem processes: Mayweed chamomile has not been reported from undisturbed areas. It may not, therefore, affect natural ecosystem processes.

Biology and Invasive Potential

Reproductive potential: Mayweed chamomile reproduces by seeds. Plants of average size are capable of producing from 550 to 12,000 seeds. The largest plant observed at an experimental site in Britain had a reproductive capacity of 27,000 seeds (Kay 1971).

Role of disturbance in establishment: Mayweed chamomile establishes only in disturbed areas.

Potential for long-distance dispersal: Seeds lack any structural adaptations for dispersal (Kay 1971).

Potential to be spread by human activity: Mayweed chamomile seeds can easily contaminate commercial grass seed. Seeds remaining on the plants can be dispersed for some distance with hay. They can also be transported on shoes and clothes, in mud and soil adhering to agricultural equipment, and by farm animals (Kay 1958, USDA ARS 2005).

Germination requirements: Seeds germinate mainly in

autumn and spring, but some germination occurs throughout the year (Kay 1971, Roberts and Neilson 1981). The best emergences were obtained during outdoor experiments with temperatures alternating between 20°C and 30°C in the presence of light (Kay 1971, Gealy et al. 1994). High soil water content is required for successful germination and seedling establishment (Gealy et al. 1985).

Growth requirements: Mayweed chamomile is primarily adapted to relatively dry climates and warm summers. It grows best in areas that have a July mean temperature greater than 15°C and a mean annual precipitation less than 89 cm. This species grows most frequently in heavy clay and clay-loam soils, both calcareous and neutral. It also grows in poorly drained, medium-textured soils. It is not well adapted to growing in light sand. Mayweed chamomile is frost-hardy at the rosette stage and can grow as a winter annual. It is moderately drought-resistant. Summer droughts restrict the size of the plant, but they do not prevent the setting of seed (Kay 1971).

Congeneric weeds: Corn chamomile (*Anthemis arvensis*) is considered a noxious weed in Colorado (USDA 2006, Invaders 2010)

Legal Listings

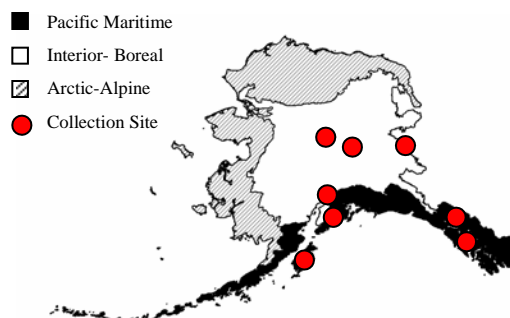
- Has not been declared noxious
- Listed noxious in Alaska
- Listed noxious by other states (CO, NV)
- Federal noxious weed
- Listed noxious in Canada or other countries

Distribution and abundance

Mayweed chamomile is commonly found in cereal crops, waste areas, farmyards, overgrazed pastures, and

roadsides (Hultén 1968, Kay 1971, Roberts and Neilson 1981, Whitson et al. 2000).

Native and current distribution: Mayweed chamomile is native to the Mediterranean region but has been widely introduced as a weed in the temperate zone. Its European distribution extends to southern Norway, central Sweden, and southern Finland. Its southern extent includes the Canary Islands, Egypt, and western Asia. This species has been introduced to the United States, Canada, Argentina, Australia, and New Zealand (Hultén 1968, Kay 1957, USDA ARS 2005). Mayweed chamomile has been documented from the Pacific Maritime and Interior-Boreal ecogeographic regions of Alaska (Hultén 1968, Welsh 1974, AKEPIC 2010, UAM 2010).



Distribution of mayweed chamomile in Alaska

Management

Combinations of rotational grazing and herbicide treatments are the best methods for successful control of mayweed chamomile in crops and pastures (Ivens 1979). This species is resistant to a number of herbicides.

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