hoary alyssum

Berteroa incana (L.) DC.

Synonyms: *Alyssum incanum* L.
Other common name(s): hoary false madwort, hoary alyssum, hoary false alyssum
Family: Brassicaceae

Invasiveness Rank: **Not Ranked -** 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

Figure 1 Hoary alyssum (Berteroa incana). Photo by the Alaska Center for Conservation Science.

Hoary alyssum is an annual or short-lived perennial plant that grows from 3 to 8 dm tall, often with a slender taproot. Stems are either simple or few from the base and densely hairy with a mix of stellate and simple trichomes. Basal leaves have entire, or smooth, margins, are oblanceolate in shape, usually 3.5 to 8 cm in length with cuneate, or attenuate bases and obtuse apexes. Leaves wither by the time hoary alyssum goes to flower. Stem leaves differ by having leaf apex acute or obtuse. Fruiting pedicels of hoary alyssum are appressed to the stem, or rachis, and usually 5 to 9 mm long. Flowers of hoary alyssum have sepals that grow 2 to 2.5 mm long and have 4 white, spreading petals that usually grow from 5 to 6.5 mm and deeply notched at the apex. Petal shape is narrowly obcordate. Filaments are white, with the median pair being 2 to 3.3 mm long and the lateral pair being 0.3 to 1 mm long. Anthers are 0.5 to 1 mm. The style grows from 1 to 4 mm long and is sparsely hairy at the base. Fruits of hoary alyssum are oval silicles (pods) and usually 5 to 8.5 mm long by 2.5 to 4 mm wide. The silicles have a surface of whitish-gray stellate hairs and each bear four to 12 seeds (Dickinson and Royer 2014). The seeds are dark reddish brown to brown and 1 to 2.3 mm in diameter, slightly flattened, and narrowly margined. (Al-Shehbaz 2020, Alex 1992, Rollins 1993, Warwick and Francis 2006).

Similar Species: Hoary alyssum can be distinguished from other plants in its family (Brassicaceae) by its rounded seedpods, stalkless and non-clasping stem leaves with entire margins, the dense star-shaped hairs, and by its small ovoid seedpods born erect and close to the stem with a distinctive membranous partition (Frankton and Mulligan 1987, Alex 1992). Hoary alyssum is the only plant in the genus *Berteroa*, to occur in Alaska.

Ecological Impact

Impact on community composition, structure, and interactions: Hoary alyssum is known as a detrimental exotic plant in North

America. It is capable of developing dense stands that compete on the community scale in natural and semi-natural areas for space and resources in both Canada and the United States. Although hoary alyssum may be found among native communities of upland habitats and open fields, it is most likely to invade disturbed agricultural soils and compete with crop species following periods of environmental stress (e.g. drought, overgrazing, winterkill, poor soil fertility).

Impact on ecosystem processes: Species such as hoary alyssum that are rhizomatous and have deep taproots are more likely to influence soil processes (Warwick and Francis 2006).

Biology and Invasive Potential

Reproductive potential: Hoary alyssum exclusively reproduces by seed (Parkinson et al. 2017). A single plant can produce up to 2,700 seeds that remain viable in the soil for at least nine years (Dickinson and Royer 2014).

Role of disturbance in establishment: Hoary alyssum is most successful under disturbed conditions.

Potential for long-distance dispersal: Seeds disperse through valves in the silicle and generally fall near the parent plant, but long-distance dispersal likely occurs through mowers and other vehicles as well as contaminated substrate or feed (Parkinson et al. 2017).

Potential to be spread by human activity: Hoary alyssum often invades open fields and pastures that may be grazed or managed for hay production. Seed may be dispersed through transportation of hay, agricultural crops, livestock, and soil (Warwick and Francis 2006).

Germination requirement: Hoary alyssum has a high germination capacity and will germinate most effectively in open areas under wet conditions (Warwick and Francis 2006).

Growth requirements: Hoary alyssum is adapted to poor soils, and seedlings require the light provided by open habitats for continued development (Warwick and Francis 2006).

Distribution and Abundance

Native and current distribution: Hoary alyssum is native to temperate Asia and Europe (USDA, ARS 2017). In North America, it is known to grow on roadsides, floodplains, meadows, waste places, railroad embankments, woodlands, grasslands, fields, stream banks, pastures, hillsides and forest floors (Al-Shebaz, 2020). Hoary alyssum has been reported in most US states apart from California, Arizona, Texas, and much of the southeastern US (USDA, NRCS 2017). It is present in Canada from British Colombia to Newfoundland, but absent from northern provinces. (USDA, NRCS 2017). This species has not been observed in undisturbed areas in Alaska and all current observations occur within the Anchorage municipality (Densmore et all. 2001, AKEPIC 2025, CPNWH 2025). For the most up-to-date distribution information for Alaska, please visit the AKEPIC Database.

Legal Listings

- Listed noxious by other states (MI)

Management Herbicides such as 2,4-D are effective against hoary alyssum. This species has shown resistance to mechanical control, which may mostly be attributed to deep, slender taproots. It is very difficult to extract the entire plant from the soil, and it may produce new shoots from material left in the ground. Cultural control such as tilling may be effective. (Warwick and Francis 2006).

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