European stickseed
Lappula squarrosa (Retz) Dumort.

Synonyms: *Lappula echinata* Gilib., *L. erecta* A. Nels., *L. fremontii* (Torr.) Greene, *L. lappula* (L.) Karst., *L. myosotis* Moench, *L. squarrosa* var. *erecta* (A. Nels.) Dorn
Other common names: bristly sheepburr, blueburr
Family: Boraginaceae

Invasiveness Rank: **44** 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
European stickseed is a summer or winter annual herb that grows up to 61 cm tall. Summer annuals typically produce a single main stem whereas winter annuals commonly form a rosette with five to ten basal branches. The entire plant is covered with stiff, white hairs and has a strong, objectionable odor. Basal leaves are oblanceolate and up to 91 cm long. Stem leaves are linear to oblanceolate. They are reduced in size up the stem and become leafy, unstalked bracts near the top. Flowers are 3 to 4 mm wide and blue or sometimes white. They are composed of five united sepals, five united petals, five stamens, and a single pistil. Flowers are positioned near the ends of the stems in leafy clusters. Each flower produces four nutlets. Nutlets have two rows of hooked prickles with star-shaped tips. The stalks of the fruits are straight and erect (Frick 1984, Douglas et al. 1998, Royer and Dickinson 1999).

Lappula squarrosa (Retz) Dumort. Photo by M. Harte.

Similar species: Flatspine stickseed (*Lappula occidentalis*) is a weedy, annual plant that is native to western North America. It can be distinguished from European stickseed by its seed morphology. Flatspine stickseed nutlets have one row of hooked prickles while European stickseed nutlets have two rows (Douglas et al. 1998).

Ecological Impact
Impact on community composition, structure, and interactions: European stickseed competes with adjacent plants for moisture and nutrients. It is occasionally eaten by wildlife species and a large number of herbivorous insects. European stickseed is a known host for several fungus species (Frick 1984).
Impact on ecosystem processes: As an early colonizing species, European stickseed is important to successional processes in disturbed areas. Dense stands of European stickseed reduce evaporation and soil erosion. Senescent plants persist over winter and trap snow, increasing soil moisture (Frick 1984).

Biology and Invasive Potential
Reproductive potential: European stickseed reproduces exclusively by seeds. Vegetative reproduction does not occur. Summer annuals can produce 200 to 500 seeds, while winter annuals may produce as many as 40,000 seeds. Seeds can remain viable in the soil for up to 4 years (Frick 1984, Royer and Dickinson 1999).
Role of disturbance in establishment: European stickseed establishes readily in disturbed soil and may become abundant in overgrazed pastures (Royer and Dickinson 1999).
Potential for long-distance dispersal: Seeds have hooked prickles that enable them to attach to animal fur. Seeds can also be dispersed by wind either alone or with detached portions of the plant (Frick 1984, Royer and Dickinson 1999).
Potential to be spread by human activity: Seeds readily attach to clothing and the fur of agricultural animals (Frick 1984).
Germination requirements: Seeds usually germinate and

emerge in spring as the soil thaws. During wet autumns, germination can occur following seed shed. Seeds germinate best when they are buried in the top 2 ½ cm of soil and receive light (Frick 1984, Royer and Dickinson 1999).

Growth requirements: European stickseed grows in a wide range of soil textures, including gravel, sand, loam, and clay. It can grow in any moisture conditions, from dry gravel beds to the pond margins (Frick 1984).

Congeneric weeds: Flatspine stickseed (*Lappula occidentalis*) is a weedy, annual plant that is native to western North America. It is considered a nuisance plant of rangelands and pastures (Whitson et al. 2000, USDA 2002).

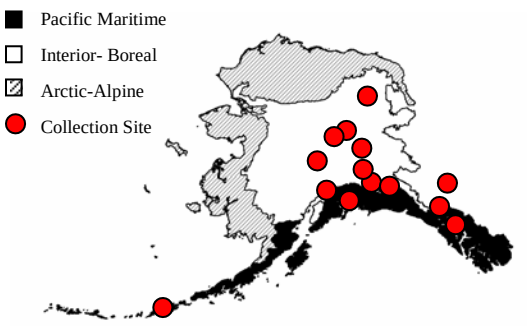
Legal Listings

- ☐ Has not been declared noxious
- ☒ Listed noxious in Alaska
- ☐ Listed noxious by other states
- ☐ Federal noxious weed
- ☒ Listed noxious in Canada or other countries (AB, MB, SK)

Distribution and abundance

European stickseed is commonly found in disturbed areas, roadsides, waste areas, and cultivated fields (Frick 1984, Royer and Dickinson 1999). It inhabits dry to mesic rocky slopes, grasslands, shrublands, and forest openings in lowland, steppe, and montane zones (Douglass et al. 1998).

Native and current distribution: European stickseed is native to the eastern Mediterranean region. Its current distribution includes Europe (including the North Atlantic islands of Spitsbergen and Iceland), North America, Asia, and Japan from latitudes of approximately 30°N to 70°N. European stickseed also grows in comparable southern hemisphere regions in South Africa and Australia. It has been reported from every Canadian province and nearly all of the states of the U.S. (Royer and Dickinson 1999, USDA 2002). European stickseed has been collected from the Pacific Maritime and Interior-Boreal ecogeographic regions of Alaska (Hultén 1968, UAM 2003, AKEPIC 2010).



Distribution of European stickseed in Alaska.

Management

European stickseed populations that grow in cultivated crops can be controlled by a wide range of commonly used herbicides. Plants often resprout with increased seed production after being grazed or mown (Frick 1984).

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