



Linaria dalmatica (L.) Mill., Dalmatian toadflax, Plantaginaceae

Synonyms: *Antirrhinum dalmaticum* L., *Linaria dalmatica* var. *dalmatica*, *Linaria genistifolia* subsp. *dalmatica* (L.) Maire & Petitm. (https://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=503474#null)



DalmatianToadflax habit. Susan Turner, British Columbia Ministry of Forests, Bug-wood.org.

Species Description & Habitat

Species Description

Dalmatian toadflax is a short-lived, perennial herb to 1 m tall with deeply penetrating taproots. Its habit is narrow and upright, with multiple stems growing from a single woody base. Leaves are pale green, waxy, and heart-shaped, about 2.5-7.6 cm long that clasp the stem at the base. This species flowers in May-September, with distinctive bright yellow, snap-dragon-like flowers in racemes. Fruits are capsules that contain numerous small, black-brown, ridged seeds.

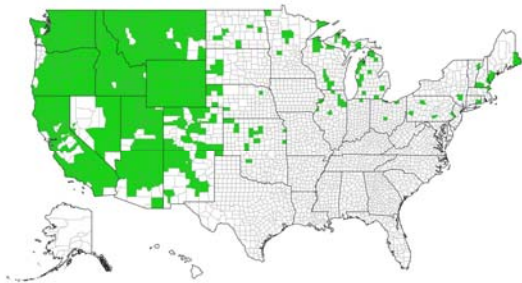
Habitat

In North America, this species primarily occurs on sandy or gravelly soil on roadsides, railroads, pastures, cultivated fields, range lands, and clear cuts as well as in coniferous forests, oak, aspen, sagebrush, mountain brush, and riparian communities in the western US.

Introduction and Impact

The native distribution of Dalmatian toadflax is restricted to the Balkan Peninsula, Turkey, Iran, Iraq, Syria and Romania. It was introduced to the United States in the late 1800s or early 1900s as an ornamental, for use in fabric dye, and for medicinal uses and was first documented in Washington state in the 1920s.

This species impacts productive grassland and rangelands in Canada and the USA by dominating sites where it occurs. It produces chemicals that may contribute to its ability to invade and may be toxic to livestock. It becomes dominant in a broad range of ecosystems including natural habitats.



States where Dalmatian toadflax occurs. EDDMapS. 2018. Early Detection & Distribution Mapping System. The University of Georgia - Center for Invasive Species and Ecosystem Health. Available online at <http://www.eddmaps.org/>; last accessed May 27, 2018.

Distribution in Introduced Range

In the United States, Dalmatian toadflax occurs throughout the western states as well as in Connecticut, Illinois, Indiana, Iowa, Kansas, Maine, Massachusetts, Michigan, Minnesota, Nebraska, New Hampshire, New York, North and South Dakota, Oklahoma, Ohio, Pennsylvania, Vermont, and , Wisconsin.

This species is also found in central Europe, Switzerland, the UK, Canada, South Africa, Australia, and Argentina.



Dalmatian toadflax flowers. Bob Nowierski, Montana State University, Bugwood.org.



Dalmatian toadflax, clasp leaves. Steve Dewey, Utah State University, Bugwood.org.

Control and Management

This species is best managed by integrating a variety of management strategies. Pulling by hand can be effective for small infestations, especially in sandy soils or when soils are moist. Intensive clean cultivation can effectively control Dalmatian toadflax over multiple years. Effectiveness of herbicides is highly variable, partly because of the plants' high genetic variability. Herbicides that provide effective control include Pico-

Regulatory Status

This species is listed as a B list noxious weed in Colorado; a noxious weed in Idaho, Nevada, and Wyoming; a Category 1 noxious weed in Montana, a B designated weed and quarantine species in Oregon; and a regulated non-native plant species in South Dakota.

References and Resources

Bugwood Wiki (https://wiki.bugwood.org/Linaria_spp). Updated 16 May 2012. Accessed 27 May 2018.

Centre for Agriculture and Bioscience International (CABI), Invasive Species Compendium. *Linaria dalmatica* (L.) Miller, (Dalmatian toadflax) Datasheet (<https://www.cabi.org/isc/datasheet/30827>). Copyright 2018. Accessed 27 May 2018.

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