

Antirrhinum orontium

Lesser snapdragon
Scrophulariaceae

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OVERVIEW

Antirrhinum orontium (lesser snapdragon) is an herbaceous plant native to southwestern and central Europe. In Hawai'i, this plant has become naturalized in dry areas of O'ahu, Maui, and Kaho'olawe (Wagner et al. 1999, Staples et al. 2002, Starr et al. 2002). On Maui, *A. orontium* was collected about 25 years ago in the Pu'u o Kali area. *A. orontium* is currently spreading on Maui and has recently been documented from Lualailua Hills and Kahikinui on the south slope. It has also become established in the Makawao and Pukalani areas. In these areas, *A. orontium* can form dense patches on lava, cinder, or rocky substrates. While *A. orontium* is fairly well established on Maui, it appears that it has not reached its full potential distribution, and will likely continue to spread.

TAXONOMY

Family: Scrophulariaceae (Figwort family) (Wagner et al. 1999).

Latin name: *Antirrhinum orontium* L. (Wagner et al. 1999).

Synonyms: *Misopates orontium* (L.) Raf. (Wagner et al. 1999), *Misopates orontium* (L.) Raf. (USGS 2002).

Common names: Lesser snapdragon (Wagner et al. 1999).

Taxonomic notes: The genus *Antirrhinum* is made up of about 30 species of annual or perennial herbs and sometimes small shrubs. They originate from the Northern Hemisphere and are common in dry regions of the United States and the Mediterranean region (Wagner et al. 1999).

Nomenclature: The name is derived from the Greek word *anti*, meaning against, and *rhis*, meaning snout, referring to the appressed closed palate of the flowers (Wagner et al. 1999).

Related species in Hawai'i: *Antirrhinum majus* L. (common snapdragon) is a commonly cultivated flower in gardens of Hawai'i, mostly grown at higher elevations (Wagner et al. 1999).

DESCRIPTION

"Annual herbs (0.5-)2-5 dm tall; stems erect, sparingly branched, glabrous to sparsely hirsute in lower parts, glandular pubescent in upper parts. Leaves linear to oblong-elliptic, 20-50 mm long, 2-7 mm wide, subsessile. Flowers in lax, terminal racemes, pedicels very short in flower, elongating up to 4 mm long in fruit, bracts similar to leaves but much smaller; calyx 10-17 mm long, the lobes linear, the longest one ca. 1.5 times as long as shortest one; corolla pink, rarely white, 10-15 mm long, as long as or slightly shorter than calyx. Capsules ovoid, gibbous, 8-10 mm long, glandular pubescent. Seeds

somewhat flattened, 1 face smooth, keeled and prolonged into a narrow wing, the other face finely tuberculate, with a wide, raised, sinuate, papillose border." (Wagner et al. 1999).

BIOLOGY & ECOLOGY

Cultivation: *Antirrhinum* species are often cultivated as ornamentals for their attractive flowers (Neal 1965).

Invasiveness: *Antirrhinum orontium* is naturalized in Hawai'i on the islands of O'ahu, Maui, and Kaho'olawe (Wagner et al. 1999, Staples et al. 2002, Starr et al. 2002). On Maui, *A. orontium* is locally common in dry sites where it forms dense patches on lava and cinder substrates. It is spreading on the south slope of Haleakala, at Lualailua Hills and Kahikinui. It is also established in Pukalani, Makawao, and Pu'u o Kali.

Pollination: Not known.

Propagation: *A. orontium* is likely propagated from seeds.

Dispersal: Not known, though *A. orontium* has small seeds that are likely dispersed in a number of ways. On the south slope of Haleakala, *A. orontium* appeared to be spread from Lualailua Hills to Kahikinui in contaminated cinders.

Pests and diseases: Not known.

DISTRIBUTION

Native range: *A. orontium* is native to southwestern and central Europe (Wagner et al. 1999).

Global distribution: *A. orontium* is increasingly becoming a weed in the Pacific Northwest because of its tolerance for many herbicides (Markham 1995).

State of Hawai'i distribution: *A. orontium* is known from O'ahu, Maui, and Kaho'olawe (Wagner et al. 1999, Staples et al. 2002, Starr et al. 2002). On O'ahu, *A. orontium* was first collected in 1950 and is now naturalized on dry ridges and Diamond Head Crater (Wagner et al. 1999). On Kaho'olawe, *A. orontium* was collected in 2000 from the areas around Lae o Hikiula (Kuheia) and was more prevalent further inland (Staple et al. 2002).

Island of Maui distribution: On Maui, *A. orontium* was first documented from Pu'u o Kali (Wagner et al. 1999). The area is located on the western flank of Haleakala at approximately 1,000 ft (305 m) in a seasonal lowland dry forest. Here, *A. orontium* occurs in dense patches on rough a'a lava. In 2000, a small patch was observed on the roadside in Makawao on the corner of Makawao Ave. and Pi'iholo Rd., 1,600 ft (488 m) elevation (Starr et al. 2002). It was also observed in Lualailua Hills, on the south slope of Haleakala, along the roadside, near a cinder pit, elevation 1,500 ft (457 m) (Starr et al. 2002). It has recently also been observed in Kahikinui, 1,000 ft (305 m) elevation, also in cinders which seemed to have been moved from the Lualailua cinder pit to Kahikinui for

road material. It is likely that the cinders moved were contaminated with *A. orontium* and may be present further up in the mountain along the road wherever the cinders went. *A. orontium* has also been observed in the Pukalani/Kula area, elevation 1,500-2,000 ft (457-610 m), occurring in small dense patches on steep walls made up of lava substrate, such as roadcuts. *A. orontium* continues to spread in these relatively dry disturbed areas on Maui and appears to not have reached its full distribution yet.

CONTROL METHODS

Physical control: Plants can be hand pulled. This does cause disturbance and follow up control will likely be needed to pull new seedlings as they come up.

Chemical control: Apparently, in the Pacific Northwest, *A. orontium* is increasingly becoming a roadside weed due to its tolerance for many herbicides (Markham 1995). Trials would be needed in Hawai'i to find the best methodology for effective control.

Biological control: None known.

Cultural control: These plants are not large and may be kept from invading by having healthy ecosystems with plenty of plant cover and minimizing disturbance. Plants in the Lualailua cinder pit could be controlled to curb long distance dispersal.

Noxious weed acts: None known. *A. orontium* is listed as an invasive plant in Alaska USGS 2002).

MANAGEMENT RECOMMENDATIONS

A. orontium is established in dry areas of O'ahu, Maui, and Kaho'olawe. On Maui, *A. orontium* has been present for at least 25 years. It is locally established in a few areas and seems to be spreading. It is not yet widespread throughout the island and probably has not reached its full potential distribution. Containing it in discrete natural areas, such as Pu'u o Kali, Lualailua, and Kaho'olawe may help prevent larger infestations in vulnerable areas.

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