VOLUTARIA

A New and Noxious Plant Threatens Southern California

Volutaria (*Volutaria tubuliflora*) was first discovered in Borrego Springs in 2011. This is its first introduction to North America and Volutaria is spreading rapidly. A second population was found in 2014 in Newport Beach where it is also spreading quickly. If we want to protect native plants, wildlife, rangelands and agricultural areas in Southern California, then eradicating Volutaria from these two areas and locating any additional populations is a top priority.

In its native range in North Africa and the Mediterranean, Volutaria grows in disturbed areas, along roadsides, and in a variety of habitats from deserts, to coastal areas to shrub-dominated vegetation. In its home range it can also be a weed in agricultural areas. Volutaria was accidentally introduced to the Atacama Desert in Chile where it is also spreading. The Atacama Desert receives less rainfall than the California deserts, so it should spread well in our deserts too. If left unchecked, it is expected that Volutaria can invade a variety of plant communities in California and potentially move across the Southwest US.

A typical Volutaria flower, (about 1/2 in. wide) and a large Volutaria plant

A young Volutaria plant

Voluataria leaves

Do not let this plant go to seed. Remove any and all plants immediately and before they produce flowers. If the plant has produced flowers, securely place the plant in two trash bags (one bag inside the other) to prevent the seeds from spilling.

Increasing numbers of Volutaria plants have been found each year since its discovery. In 2015, 10,000 Volutaria plants were removed from Borrego Springs and 4,000 were removed from Newport Beach. If this invasive plant is not controlled it will continue to quickly spread.

Volutaria can germinate after it rains and during most of the year. Volutaria has germinated after monsoon rains or in irrigated areas in the summer. In coastal areas Volutaria can germinate during the fall and bloom from the winter to the spring. It typically germinates in winter and flowers 2-3 months after germination. It dies during the driest part of summer, surviving as seed in the soil continuing the cycle next year.

It has been observed that wildlife species do not eat this plant in large quantities. Several closely related species have low palatability, can cause allergic reactions or are toxic, particularly to horses. Be cautious with animals foraging on this species.

The seeds of Volutaria can remain dormant in the soil for several years, thus all infestations will need to be monitored for several years. Some seeds will remain dormant in the soil and can germinate throughout the winter and spring, and also in later years.

How to Stop the Spread of Volutaria

Best Management Practices

- **Do not let this plant produce seeds**
  - Immediately remove this plant when found. Annual plants must produce seeds each year before they die. If a population is controlled before seeds are produced every year, then after several years the site will be cleared.
- **Monitor infestations several times a season and for several years, likely at least 3 years**
  - Volutaria can germinate throughout the season, thus one removal session is not enough to stop all plants from going to seed. The seeds of closely related species can survive for at least 3 years in the soil. Voluataria seeds are suspected to survive at least 3 years.
- **Place all Volutaria plants that have flowers in two trash bags**
  - Placing plants with flowers in two trash bags (one bag inside the other) will prevent seeds from spilling out of small holes in the outer bag.
- **Use gloves to remove this weed**
  - This and closely related species have sap that is bitter and gloves can prevent contact with skin. Several closely related species are not palatable or toxic to livestock, especially horses.

A single Volutaria plant can produce hundreds of flowers and thousands of seeds. As this plant spreads it threatens to reduce wildflowers and wildlife, and could become a pest for growers.

Stopping plants from producing seeds and limiting the spread of seeds will increase the chance of eradicating this invasive plant.

- **Clean all equipment, clothing, footwear, and gloves BEFORE and AFTER entering an area with Volutaria**
  - Cleaning after removing this plant will help to stop the accidental spread of Volutaria to new sites. Cleaning before entering a work site will prevent previously contaminated equipment from entering a site.
- **Clean all vehicles and bikes after they enter an infested site, including the tires, wheel wells and undercarriage**
  - Seeds, dirt and mud sticking to vehicles is one of the main ways seeds can hitchhike and travel very long distances. Eradication of this species requires stopping new infestations.
- **Designate a cleaning or staging area when cleaning equipment, clothing and vehicles after working on an infestation**
  - If any seeds have attached to clothes, equipment, gloves or footwear, designating a common cleaning site, adjacent to the work site, will allow all errant seeds to be deposited in one easy to treat location. Without a staging area attached seeds will be spread across the site and will be harder to remove later.

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