California Pest Rating Proposal for

Nothoscordum gracile (Aiton) Stern, slender false garlic

Family: Amaryllidaceae subfamily Allioideae [previously placed in Alliaceae or Liliaceae sensu lato]:

Current Pest Rating: B

Proposed Pest Rating: B

Synonyms:
Allium fragrans Vent., *Nothoscordum fragrans* (Vent.) Kunth, *N. borbonicum* Kunth (possibly misapplied), *N. inodorum* auct. (misapplied)

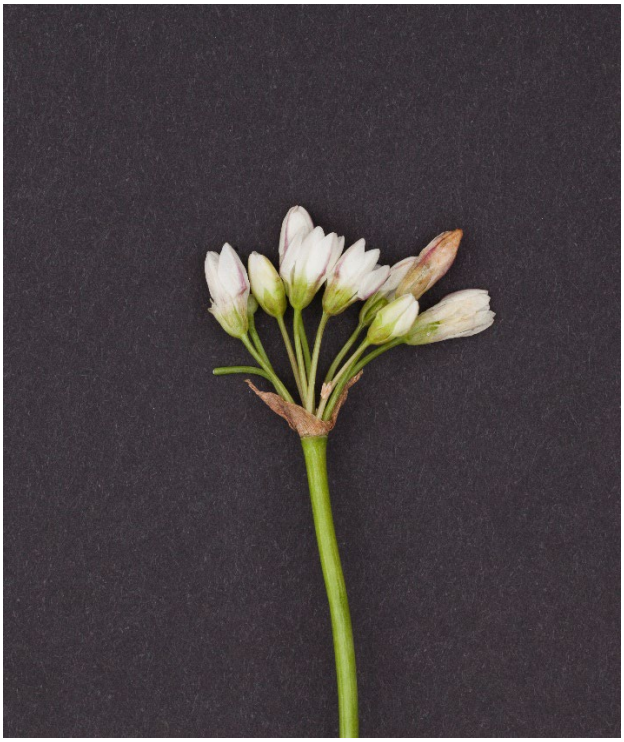

Photo Credit: Riad Baalbaki, CDFA Seed Laboratory

Comment Period: 04/14/2022 through 05/29/2022

Initiating Event:
Nothoscordum gracile has been previously assigned a B-rating by the California Department of Food and Agriculture (CDFA), Plant Health and Pest Prevention Services, but has not gone through the current

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pest risk analysis procedure. *Nothoscordum gracile* is designated as a noxious weed as defined by the California Food and Agricultural Code (FAC) Section 5004 and is listed in Title 3, California Code of Regulations (CCR), Section 4500.

History & Status:

Background:

Nothoscordum gracile is a perennial scapose herb related to the genus *Allium* (onions, garlic, and relatives), but differs in lacking the characteristic onion or garlic odor when the plant is cut or bruised, and in having the six tepals of the flower fused for about one third of their length rather than largely separate. *Nothoscordum* and onions and their close relatives were formerly placed in the onion family (Alliaceae), or a very broadly defined lily family (Liliaceae) but are currently included in the amaryllis family (USDA GRIN, 2022), which is characterized by umbel-shaped inflorescences and black-coated seeds. *Nothoscordum gracile* grows from a basal, membranous-coated brownish bulb approximately 1.5 cm in diameter and may produce many (up to 20 or more) small bulblets. The leaves arise from the base of the plant (scapose habit) and are grass-like in general appearance; long, narrow, and approximately 4-12 mm wide by 20-50 cm long. The one to three stems per plant range from 30-60 centimeters in height (Jacobsen and McNeal, 2002; DiTomaso and Healy, 2007). The plant bears umbels of approximately 10-20 white, bell-shaped flowers of 6 partially united tepals, approximately 1-1.5 cm in length. The capsule fruits bear up to 12 black, oval, flat or angled seeds in each of the three chambers.

Nothoscordum gracile is native to southern Mexico (Chiapas) in North America and to the countries of Argentina, Brazil, Chile, Costa Rica, Guatemala, Honduras, Panama, Paraguay, and Peru in Central and South America (USDA GRIN, 2022). The species has been planted widely as an ornamental and has become naturalized in Europe, Africa, Asia, and Australia (Jacobsen and McNeal, 2002). *Nothoscordum gracile* is characterized as an escaped cultivated plant in the United States, where it has been reported as naturalized in open or disturbed areas in Alabama, California, Florida, Georgia, Louisiana, Mississippi, and South Carolina (Jacobsen and McNeal, 2002), although it is only shown in a limited number of coastal counties of California in the map from the Invasive Plant Atlas (2022).

Official Control: *Nothoscordum gracile* is listed on CCR Section 4500 as a noxious weed defined by California FAC Section 5004. The Department is mandated by California FAC, Division 1, Chapter 3, Section 403 to prevent the introduction and spread of noxious weeds.

Nothoscordum gracile is a restricted noxious weed seed for the purposes of labeling seed containers and adherence to established weed tolerances that offered for sale, planting, or distribution in California (CCR Section 3855), and for the purposes of interstate shipments of agricultural into California (Title 7, Code of Federal Regulations, Section 201.16[b]).

California Distribution: The CalFlora and California Department of Food and Agriculture, Pest and Damage Record Databases contain 37 records of *Nothoscordum gracile* occurrences in California (CalFlora, 2022; CDFA/PDR Database, 2022). Slender false garlic has been reported from primarily roadside or garden environments in 12 counties of California in vouchered records from the Consortium of California Herbaria from Marin, Santa Clara, Alameda, and San Francisco counties south

primarily in coastal counties to Los Angeles, Orange, and San Diego counties in southern California, with one collection in the Sierra Nevada foothills in Tuolumne County in 2000 (CCH, 2022).

California Interceptions: There are no reported interceptions of *Nothoscordum gracile* in shipments entering or transported within California (CDFA/PDR Database, 2022).

Consequences of Introduction

1) **Climate/Host Interaction:** Score is **Medium (2)**
Nothoscordum gracile occurs primarily at low elevations of less than 100 meters of elevation in urban or open areas in coastal counties of central and southern California (CCH, 2022). It is low-water tolerant and often occurs in disturbed areas such as roadsides or as a garden escape or weed. The species has been described as highly invasive and difficult to control (Cal-IPC, 2022; Di Tomaso and Healy, 2007).
-Low (1) Not likely to establish in California; or likely to establish in very limited areas
- **Medium (2) may be able to establish in a larger but limited part of California**
- High (3) likely to establish a widespread distribution in California

2) **Known Pest Host Range:** Score is **High (3)**
Nothoscordum gracile can wherever general ecological conditions exist that are conducive to its survival.
- Low (1) has a very limited host range
- Medium (2) has a moderate host range
- **High (3) has a wide host range**

3) **Pest Dispersal Potential:** Score is **High (3)**
Nothoscordum gracilis is dispersed via seeds and through the splitting and increase of bulblets after disturbance. The species is described as extremely prolific. Seeds are dispersed via wind and water, and seeds or bulblets can be spread in contaminated soil and green waste (Pacific Bulb Society, 2001).
- Low (1) does not have high reproductive or dispersal potential
- Medium (2) has either high reproductive or dispersal potential
- **High (3) has both high reproduction and dispersal potential**

4) **Economic Impact:** Score is **Medium (2)**
Due to the existing noxious weed and restricted weed seed status of *Nothoscordum gracile*, and due to the difficulty with control and eradication of *Nothoscordum gracile*, infested nursery stock or other agricultural shipments are subject to loss of marketability or quarantine. Attempts to eradicate or control *Nothoscordum gracile* could result in increased agricultural production costs in nursery stock or infested fields.
A. The pest could lower crop yield.
B. The pest could lower crop value (includes increasing crop production costs).
C. The pest could trigger the loss of markets (includes quarantines).

D. The pest could negatively change normal cultural practices.
E. The pest can vector, or is vectored, by another pestiferous organism.
F. The organism is injurious or poisonous to agriculturally important animals.
G. The organism can interfere with the delivery or supply of water for agricultural uses.

Economic Impact:
- Low (1) causes 0 or 1 of these impacts
- Medium (2) causes 2 of these impacts
- High (3) causes 3 or more of these impacts

5) Environmental Impact: Score is **High (3)**

The environmental impact of *Nothoscordum gracile* is high due to the reported difficulty with controlling its spread from and within an area once established (Cal-IPC, 2021).

A. The pest could have a significant environmental impact such as lowering biodiversity, disrupting natural communities, or changing ecosystem processes.
B. The pest could directly affect threatened or endangered species.
C. The pest could impact threatened or endangered species by disrupting critical habitats.
D. The pest could trigger additional official or private treatment programs.
E. The pest significantly impacts cultural practices, home/urban gardening or ornamental plantings.

Environmental Impact:
- Low (1) causes none of the above to occur
- Medium (2) causes one of the above to occur
- High (3) causes two or more of the above to occur

Consequences of introduction to California for *Nothoscordum gracile*: **High (13)**

Low = 5-8 points
Medium = 9-12 points
High = 13-15 points

1) Post Entry Distribution and Survey Information: Score is **Medium (2)**

Since 1949, there have been approximately 40 collected and recorded occurrences of *Nothoscordum gracile* in California. The number of collection incidences per county are as follows: Orange (9); Los Angeles (7); San Diego (6); Santa Barbara (6); Alameda (4) and one recorded collection each in the counties of Contra Costa, Marin, Sacramento, San Francisco, Santa Clara, Riverside, and Tuolumne (CalFlora, 2022; CCH, 2022; CDFA PDR Database, 2022).

-Not established (0) Pest never detected in California or known only from incursions.
-Low (-1) Pest has a localized distribution in California or is established in one suitable climate/host area (region).
-Medium (-2) Pest is widespread in California but not fully established in the endangered area, or pest established in two contiguous suitable climate/host areas.

-High (-3) Pest has fully established in the endangered area, or pest is reported in more than two contiguous or non-contiguous suitable climate/host areas.

7) Final Score: Medium 11 (13-2=11)

Conclusion and Rating Justification:
Due to the current presence of *Nothoscordum gracile* in California and its potential economic impacts to the agricultural industry and natural environment of California, a B-rating is recommended.

Uncertainty

Nothoscordum gracile has been primarily reported as an escape from cultivation in disturbed areas, gardens, and urban areas (DiTomaso and Healy, 2007). It is difficult to control because of its dispersal both by bulblets and seed, and it is unclear how widely it will be able to establish in non-disturbed habitats. There has long been confusion about the scientific name of the plant, both because of misapplication of the name *Nothoscordum inodorum* (Aiton) G. Nicholson (a synonym of the quite distinct onion species *Allium neapolitanum* Cirillo) to some collections of *N. gracile*, and disagreement as to whether *Nothoscordum borbonicum* Kunth is a species distinct from *N. gracile*, or a correct name for the slender false garlic of cultivation. *Nothoscordum borbonicum* Kunth is treated here as a synonym of *N. gracile* following the treatment by USDA GRIN (2022), although the Flora North America treatment by Jacobsen and McNeal (2002) suggests that *N. borbonicum* is a misapplied name in reference to slender false garlic in North America.

References

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CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

***Comment Period: 04/14/2022 through 05/29/2022**

***NOTE:**

You must be registered and logged in to post a comment. If you have registered and have not received the registration confirmation, please contact us at permits[@]cdfa.ca.gov.

Comment Format:

- Comments should refer to the appropriate California Pest Rating Proposal Form subsection(s) being commented on, as shown below.

  Example Comment:

  Consequences of Introduction: 1. Climate/Host Interaction: [Your comment that relates to "Climate/Host Interaction" here.]

- Posted comments will not be able to be viewed immediately.

- Comments may not be posted if they:

  Contain inappropriate language which is not germane to the pest rating proposal;

  Contains defamatory, false, inaccurate, abusive, obscene, pornographic, sexually oriented, threatening, racially offensive, discriminatory or illegal material;

  Violates agency regulations prohibiting sexual harassment or other forms of discrimination;

  Violates agency regulations prohibiting workplace violence, including threats.

- Comments may be edited prior to posting to ensure they are entirely germane.
- Posted comments shall be those which have been approved in content and posted to the website to be viewed, not just submitted.

Proposed Pest Rating: [B]