CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Profile

Omphisa anastomosalis (Guenée): Sweet potato vine borer

Lepidoptera: Crambidae

Pest Rating: A

Comment Period: 08/22/2025-10/06/2025

Initiating Event:

This pest is occasionally intercepted on sweet potatoes from Hawaii. It has not been assessed with the pest rating system. Therefore, a pest rating proposal is needed.

History & Status:

Background:

Omphisa anastomosalis is a pest of sweet potato. Its host plants are reportedly limited to the Convolvulaceae and include *Ipomoea aquatica*, *I. batatas*, *I. cairica*, *I. indica*, and *I. pes-caprae* (Ohno et al., 2010). Larvae tunnel through and feed on the vines and roots (tubers) of the host plant. They usually pupate inside the plant. There appear to be two generations per year in Japan (McQuate and Sylva, 2019; Ohno et al., 2010).

Larval damage by this pest can prevent development of the storage root (i.e., the sweet potato of commerce) and can cause the death of the plant. The larvae can also tunnel into and directly damage the storage root (Amalin and Vasquez, 1993). It is considered a serious pest in Hawaii (McQuate and Sylva, 2019).

Worldwide Distribution: *Omphisa anastomosalis* is reported from: **Asia:** China, India, Indonesia, Japan; Myanmar, Philippines; Sri Lanka; **Oceania:** Papua New Guinea, Hawaii (Amalin and Vasquez, 1993; Kirti et al., 2016; McQuate et al., 2019; Ohno et al., 2010).

Official Control: *Omphisa anastomosalis* is considered reportable by the USDA (U.S. regulated plant pest table).

California Distribution: *Omphisa anastomosalis* is not known to be established in California.

California Interceptions: *Omphisa anastomosalis* is occasionally intercepted on sweet potatoes from Hawaii (California Department of Food and Agriculture).

The risk *Omphisa anastomosalis* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** *Omphisa anastomosalis* is reported to be limited to *Ipomoea* species. Its known host plants include sweetpotato and species of *Ipomoea* that are grown in California as ornamentals and occur as weeds as well. The known distribution of this moth suggests it may only be able to establish in warmer parts of California. Therefore, it receives a **Medium (2)** in this category.

   – 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:** *Omphisa anastomosalis* is reported to be limited to plants in the genus *Ipomoea*. Therefore, it receives a **Low (1)** in this category.

– Low (1) has a very limited host range.

– Medium (2) has a moderate host range.

– High (3) has a wide host range.

3) **Pest Reproductive and Dispersal Potential:** *Omphisa anastomosalis* is assumed to be capable of flight. It is also likely to be spread with infested sweet potatoes. Therefore, it receives a **Medium (2)** in this category.

– 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**. *Omphisa anastomosalis* is reported to damage sweet potatoes and to kill sweet potato plants. It is considered reportable by the United States Department of Agriculture. Therefore, it receives a **High (3)** in this category.

Economic Impact: A, B, C

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 Score: High

– 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**. *Omphisa anastomosalis* is only known to attack plants in the genus *Ipomoea*. There are no native California plants in this genus. *Ipomoea* species are grown as ornamentals and as sweet potatoes. Infestations of *O*. *anastomosalis* could trigger treatments. Therefore, this moth receives a **High (3)** in this category.

Environmental Impact: D, E

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 Score: High (3)

– 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 *Omphisa anastomosalis*: Medium (11)

Add up the total score and include it here.

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

6) **Post Entry Distribution and Survey Information:** *Omphisa anastomosalis* is not known to be established in California. It receives a **Not established (0)** in this category.

–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.

Final Score:

7) The final score is the consequences of introduction score minus the post entry distribution and survey information score: Medium (11)

Uncertainty:

There is low uncertainty regarding the absence of this pest from California, as it is a serious sweet potato pest and damage to that crop or to ornamental *Ipomoea* species would likely be noticed.

Conclusion and Rating Justification:

Omphisa anastomosalis is a serious pest of sweet potato, a crop grown in California. Ornamental *Ipomoea* species could also be at risk. This moth is not known to be present in California. For these reasons, an “A” rating is justified.

References:

Amalin, D. M., and Vasquez, E.A. 1993. A handbook on Philippine sweet potato arthropod pests and their natural enemies. International Potato Center, Los Baños, Laguna, Philippines.

California Department of Food and Agriculture. Pest and damage record database. Accessed August 5, 2025:

https://pdr.cdfa.ca.gov/PDR/pdrmainmenu.aspx

Kirti, J. S., Singh, N., and Singh, H. 2016. Inventory of subfamily Pyraustinae (Crambidae: Lepidoptera) from Sikkim. Journal of Entomology and Zoology Studies 4:700-705.

McQuate, G. T., Cossé, A., Sylvia, C. D., and MacKay, J. A. 2019. Field evaluation of a binary sex pheromone for sweetpotato vine borer (Lepidoptera: Crambidae) on Hawaii. Journal of Insect Science 19:1-9.

McQuate, G. T., and Sylva, C. D. 2019. Recovery of sweetpotato vine borer, *Omphisa anastomosalis* (Lepidoptera: Crambidae), in sweetpotato fields in Hawaii through field collections and detection trapping. Proceedings of the Hawaiian Entomological Society 51:1-11.

Ohno, S., Haraguchi, D., and Kohama, T. 2010. Determination of major host plants and seasonal changes in infestation frequency of the sweetpotato vine borer, *Omphisa anastomosalis* (Lepidoptera: Crambidae), on Kume Island, Okinawa. Applied Entomology and Zoology 45:587-592.

Responsible Party:

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***Comment Period: 08/22/2025-10/06/2025**

***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.

Pest Rating: A