

## California Pest Rating Proposal

### *Lamprolonchaea smaragdi* Walker: a fly

Diptera: Lonchaeidae

Current Rating: Z

Proposed Rating: C

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Comment Period: **10/22/2021 – 12/06/2021**

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#### Initiating Event:

*Lamprolonchaea smaragdi* has been found in California in Orange and Santa Clara counties. It has not been rated. A permanent pest rating proposal is required to support an official pest rating.

#### History & Status:

**Background:** *Lamprolonchaea smaragdi* is a metallic green fly whose larvae feed in decaying plant matter (Ebejer, 2015). It does not appear to be a pest. It has been confused with the similar Australian species *L. brouniana* (Bezzi) (Blacket and Malipatil, 2010; Hauser et al., 2017).

*Lamprolonchaea smaragdi* has been reared from sorghum, potatoes, figs, avocado, and watermelon, “probably all decaying” (MacGowan and Freidberg, 2008).

**Worldwide Distribution:** *Lamprolonchaea smaragdi* is reported from Asia (Israel), Africa (Canary Islands, Madagascar), Europe (Cyprus, Greece, Italy, Malta, and Spain), and North America (the United States, California only) (California Department of Food and Agriculture; Carles-Tolrá, 1994; Ebejer, 2015; Katsoyannos, 1983; MacGowan, 2019; MacGowan and Freidberg, 2008).

**Official Control:** *Lamprolonchaea smaragdi* is a prohibited pest in Australia, although this may be a result of confusion with the pest species *L. brouniana* (Government of Western Australia).

**California Distribution:** *Lamprolonchaea smaragdi* was found at a residence in Orange County in June 2021 and at a residence in Santa Clara County in August 2021 (California Department of Food and Agriculture). It was also reported in Los Angeles and San Diego counties (Hauser et al., 2017; iNaturalist).

**California Interceptions:** *Lamprolonchaea smaragdi* was intercepted on lemons from Arizona in 2019 (California Department of Food and Agriculture).

The risk *Lamprolonchaea smaragdi* poses to California is evaluated below.

### **Consequences of Introduction:**

- 1) **Climate/Host Interaction:** *Lamprolonchaea smaragdi* is reported to feed on a variety of rotting plant material, so suitable host material is likely not a limiting factor in its potential distribution in California. It is already established in the San Francisco Bay Area and southern California. Therefore, *L. smaragdi* receives a **High (3)** 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:** *Lamprolonchaea smaragdi* is reported to feed on a wide variety of rotting plant material. Therefore, it receives a **High (3)** 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:** *Lamprolonchaea smaragdi* is capable of flight. In addition, it could be moved in infested plant material. 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.** *Lamprolonchaea smaragdi* is not known to attack fresh or living plant material and appears to feed only on rotting plant material. No reports were found of this fly causing damage to agriculture. At the present time, it appears to be a regulated pest in Australia, however. Therefore, it receives a **Low (1)** in this category.

**Economic Impact: 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: Low**

- **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.** *Lamprolonchaea smaragdi* is not known to feed on living plant material. It does not appear likely to cause significant environmental impacts, although it could compete with native saprophagous insects. Therefore, it receives a **Low (1)** in this category.

**Environmental Impact:**

- 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: Low (1)**

- 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 *Lamprolonchaea smaragdi*: Medium (10)**

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:** *Lamprolonchaea smaragdi* is established in Los Angeles, Orange, San Diego, and Santa Clara counties. It receives a **Medium (-2)** 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: Low (8)

### **Uncertainty:**

There is low uncertainty regarding this pest rating proposal.

### **Conclusion and Rating Justification:**

*Lamprolonchaea smaragdi* is a fly that appears to be limited to rotting plant material. It is already established in California. For these reasons, a C rating is justified.

### **References:**

Blacket, M. J. and Malipatil, M. B. 2010. Redescription of the Australian metallic-green tomato fly, *Lamprolonchaea brouniana* (Bezzi) (Diptera: Lonchaeidae), with notes on the Australian *Lamprolonchaea* fauna. *Zootaxa* 2670-31-51.

California Department of Food and Agriculture. Pest and damage record database. Accessed October 6, 2021:

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Carles-Tolrá, M. 1994. Lista preliminar de 34 familias de Dípteros acalípteros de Cataluña (España) (Diptera, Acalyptrata). *Sessió Conjunta d'Entomologia* 8:17-28.

Ebejer, M. J. 2015. The picture-winged flies and related families (Diptera, Tephritoidea) of the Maltese Islands. *Bulletin of the Entomological Society of Malta* 7:73-91.

Government of Western Australia. *Lamprolonchaea smaragdi* (Walker, 1849). Accessed October 8, 2021:  
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Hauser, M., Hogue, J. N., and Fiesler, E. 2017. *Lamprolonchaea smaragdi* (Walker, 1849) (Diptera: Lonchaeidae) newly established in Los Angeles County, California: first record for North America. *The Pan-Pacific Entomologist* 93:61-64.

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MacGowan, I. 2019. New species of Lonchaeidae (Diptera: Schizophrenia) from Madagascar. *Israeli Journal of Entomology* 49:223-242.

MacGowan, I. and Freidberg, A. 2008. The Lonchaeidae (Diptera) of Israel, with descriptions of three new species. *Israeli Journal of Entomology* 38:61-92.

### Responsible Party:

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**\*Comment Period: 10/22/2021 – 12/06/2021**

### **\*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](mailto: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.

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**Proposed Pest Rating: C**