CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Profile for

***Chrysolina bankii* (Fabricius): a leaf beetle**

Coleoptera: Chrysomelidae

Previous Pest Rating: B

Pest Rating: C as of 07/09/2022

Comment Period: 05/25/2022 – 07/09/2022

Initiating Event:

At the time of writing this proposal, *Chrysolina bankii* is rated B. It is now known to be established in five California counties and it does not appear to be a significant pest. A pest rating proposal is needed.

History & Status:

Background: The leaf beetle *Chrysolina bankii* is reported to feed on plants in at least two families: Asteraceae (including *Ditrichia viscosa* and *Onopordum* species) and Lamiaceae (including *Rosmarinus officinalis*) (Briese et al., 1994; Petitpierre, 2020). No information was found suggesting that it is a pest.

Worldwide Distribution: *Chrysolina bankii* is native to the Mediterranean region and has been introduced to California. It is reported from: **Africa:** Morocco; **Europe:** France, Greece, Italy, Portugal, and Spain; **Macaronesia:** Azores (Borges et al., 2018; Briese et al., 1994; Daccordi and Ruffo, 2004; El Harche et al., 2022; Gil et al., 2021).

Official Control: *Chrysolina bankii* is not known to be under official control anywhere.

California Distribution: *Chrysolina bankii* has been found in Alameda, Marin, Placer, San Mateo, and Santa Cruz counties (California Department of Food and Agriculture).

California Interceptions: *Chrysolina bankii* has been intercepted on plant material from Texas and unspecified parcels from Oregon (California Department of Food and Agriculture).

The risk *Chrysolina bankii* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** This beetle is native to the Mediterranean region and it is already established in central California. One of its known host plants, rosemary, is a widespread ornamental in California. This beetle could likely establish over much of California. Therefore, it 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:** *Chrysolina bankii* is known to feed on plants in two families. Therefore, it receives a **Medium (2)** 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:** *Chrysolina bankii* could be moved with infested plant material and presumably can fly. 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:** *Chrysolina bankii* is not known to be a pest. Therefore, it receives a **Low (1)** in this category.

Economic Impact:

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:** *Chrysolina bankii* is not known to have environmental impacts. It is possible that it is having unreported impacts on native plants, including threatened species. Therefore, *C. bankii* receives a **High (3)** in this category.

Environmental Impact: A, B

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 *Chrysolina bankii*: 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:** *Chrysolina bankii* has been reported from five California 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: Medium (9)

Uncertainty:

Chrysolina bankii may be having unreported economic or environmental impacts, and its host range may be broader than has been reported here.

Conclusion and Rating Justification:

Chrysolina bankii is a leaf beetle that is now present in at least five California counties. It is not known to be a pest, and continued regulation as a B-rated pest could impact nurseries. For these reasons, a "C" rating is justified.

References:

Borges, P. A. V., Gabriel, R., Pimentel, C. M. M., Brito, M. R., Serrano, A. R. M., Crespo, L. C. F., Assing, P., Fattorini, S., Soares, A. O., Mendonça, E. P., and Nogueira, E. 2018. Biota from the coastal wetlands of Praia da Vitória (Terceira, Azores, Portugal): Part 1 – Arthropods. Biodiversity Data Journal https://doi.org/10.3897/BDJ.6.e27194

Briese, D. T., Sheppard, A. W., Zwölfer, H., and Boldt, P. E. 1994. Structure of the phytophagous insect fauna of *Onopordum* thistles in the northern Mediterranean basin. Biological Journal of the Linnean Society 53:231-253.

California Department of Food and Agriculture. Pest and damage record database. Accessed April 26, 2022:
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Daccordi, M. and Ruffo, S. 2004. Considerazioni biogeografiche sulle *Chrysolina* delle province appenninica e sicula con descrizione di *Chrysolina* (*Stichoptera*) *bourdonnei* n. sp. (Coleoptera, Chrysomelidae). Studi Trentini di Scienze Naturali, Acta Biologica 81:113-127.

El Harche, H., Chavanon, G., Dahmani, J., Bedoui, I., Kaioua, S., Fadli, M. 2022. Biological and ecological traits of terrestrial arthropods (Arthropods: Insecta) in north-west Morocco. Journal of Ecological Engineering 23:252-263.

Gil, F., Grosso-Silva, J. M., Valente, A. 2021. Preliminary catalogue of the entomofauna of Parque das Serras do Porto (Porto, Portugal). Arquivos Entomolóxicos 24:145-168.

Petitpierre, E. 2020. Two new host-plants for *Chrysolina bankii* (Fabricius, 1775) (Coleoptera: Chrysomelidae). Arquivos Entomolóxicos 22:393-394.

Responsible Party:

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***Comment Period: 05/25/2022 – 07/09/2022**

***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.

Pest Rating: C