CALIFORNIA DEPARTMENT OF FOOD & AGRICULTURE

California Pest Rating Profile for

***Protaetia fusca* (Herbst): a flower chafer**

Coleoptera: Scarabaeidae: Cetoniinae

Previous Pest Rating: Q

Pest Rating: A as of 05/19/2022

Comment Period: 04/04/2022 – 05/19/2022

Initiating Event:

Protaetia fusca is sometimes intercepted on plant material from Hawaii. A pest rating proposal is needed.

History & Status:

Background: Adult *Protaetia fusca* are reported to feed on pollen in flowers (damaging them) and on "some fermenting materials." They do not appear to be specific to particular plants (Woodruff, 2016). They have been reported from flowers of avocado and *Mimosa pigra* (Wilson et al., 1990; Simpson, 1990). Adults have also been reported to attack honeybee nests and consume honey (Paulian, 1991). Larvae live in the soil or leaf litter where they feed on decaying plant matter. One experiment showed that pineapple plant roots were not affected by the larvae and that decomposing plant material was the source of nutrition (Sakimura, 1950). *Protaetia* larvae have been reported to be limited to the layer of decomposing plant material and to not move out of it into the soil (Seow-En, 2021; Simpson, 1990). Paulian (1991) stated that the larvae of *P. fusca* cause damage to the roots of crops, but this does not appear to be supported by other literature.

Worldwide Distribution: *Protaetia fusca* is native to Asia and is reported from: **Africa:** Ghana, Mauritius; **Asia:** China, India, Indonesia, Philippines, Singapore, Taiwan, Thailand; **Caribbean:**

Bahamas, Barbados, Guadeloupe; **North America:** United States (Florida); **Oceania:** Australia (coastal Queensland and Northern Territory), Fiji, Guam, Hawaii (Aidoo et al., 2016; Meurgey and Ramage, 2020; Geetha and Agarwala, 2018; Ramsdale and Samuelson, 2006; Schreiner and Nafus, 1986; Simpson, 1990; Symbiota Collections of Arthropods Network; Woodruff, 2006).

Official Control: *Protaetia fusca* is considered reportable by the United States Department of Agriculture (U.S. regulated plant pest table).

California Distribution: *Protaetia fusca* is not known to be present in California.

California Interceptions: *Protaetia fusca* has been intercepted on *Plumeria* flowers and other plant material from Hawaii (California Department of Food and Agriculture).

The risk *Protaetia fusca* poses to California is evaluated below.

Consequences of Introduction:

1) **Climate/Host Interaction:** *Protaetia fusca* appears to be reported only from areas with a tropical or subtropical climate. It is a generalist; adults feed on a variety of flowers, and possibly honey, and larvae feed on decomposing plant material. It may be able to establish in southern California, especially along the coast. Therefore, *P. fusca* 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:** *Protaetia fusca* adults are polyphagous. 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:** *Protaetia fusca* adults presumably 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**. *Protaetia fusca* is reported to damage a wide variety of flowers. It may be most likely to impact ornamental plants. Adults are also reported to damage honeybee colonies. It appears that the larvae are not known to damage living plants. Lastly, this is a USDA-reportable species. Therefore, it receives a **High (3)** in this category.

Economic Impact: A, C, F

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**. *Protaetia fusca* adults may impact ornamental plants, primarily the flowers. Therefore, *P. fusca* receives a **Medium (2)** in this category.

Environmental Impact: Medium

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: Medium (2)

– 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 *Protaetia fusca*: Medium (12)

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:** *Protaetia fusca* is not known to be present 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 (12)

Uncertainty:

There is significant uncertainty with this proposal. *Protaetia fusca* is only known from areas with a tropical or subtropical climate. This species may not be able to establish in, or may be limited to a very small area in California. The report of attacks on honeybee nests does not appear to be described in detail in the literature. Lastly, it is not known how significant the impacts on flowers in California might be.

Conclusion and Rating Justification:

Protaetia fusca causes damage to flowers of a variety of plants, and it is also reported to burrow into honeybee colonies. It is considered reportable by the United States Department of Agriculture. It is not known to be present in California. For these reasons, an “A” rating is justified.

References:

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***Comment Period: 04/04/2022 – 05/19/2022**

***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: A