Lasioderma serricorne (Coleoptera: Anobiidae) in Stored Matricaria recutita (Asteraceae) in Brazil

Authors: Zanuncio, José Cola, Tavares, Wagner De Souza, Faroni, Lêda Rita D'antonino, Wilcken, Carlos Frederico, and Serrão, José Eduardo

Source: Florida Entomologist, 97(2) : 807-808

Published By: Florida Entomological Society

URL: https://doi.org/10.1653/024.097.0265

LASIODERMA SERRICORNE (COLEOPTERA: ANOBIIDAE) IN STORED *MATRICARIA RECUTITA* (ASTERACEAE) IN BRAZIL

JOSÉ COLA ZANUNCIO[1,*], WAGNER DE SOUZA TAVARES[2], LÊDA RITA D'ANTONINO FARONI[3], CARLOS FREDERICO WILCKEN[4] AND JOSÉ EDUARDO SERRÃO[5]

[1]Departamento de Biologia Animal, Universidade Federal de Viçosa, 36570-900, Viçosa, Minas Gerais, Brazil

[2]Departamento de Fitotecnia, Universidade Federal de Viçosa, 36570-900, Viçosa, Minas Gerais, Brazil

[3]Departamento de Engenharia Agrícola, Universidade Federal de Viçosa, 36570-900, Viçosa, Minas Gerais, Brazil

[4]Departamento de Proteção Vegetal, Universidade Estadual Paulista, UNESP, campus of Botucatu, 18603-970, Botucatu, São Paulo, Brazil

[5]Departamento de Biologia Geral, Universidade Federal de Viçosa, 36570-900, Viçosa, Minas Gerais, Brazil

*Corresponding author; E-mail: zanuncio@ufv.br

Supplementary material for this article in Florida Entomologist 97(2) (2014) is online at http://purl.fcla.edu/fcla/entomologist/browse

Insects pest of stored products and by-products, such as the cosmopolitan the cigarette beetle, *Lasioderma serricorne* F. (Coleoptera: Anobiidae) are extending their feeding preferences to new items (Machado et al. 2008; Poderoso et al. 2013). A case in point involves chamomile, *Matricaria recutita* L. (Asteraceae) [= *Matricaria suaveolens* L.; *Chamomilla chamomilla* (L.) Rydb.; *Chamomilla recutita* (L.) Rauschert)], an annual plant that probably originated from Asia or Europe and is cultivated in most countries for multiple uses.

Thus our aim is to report the occurrence of *L. serricorne* in stored *M. recutita* in Brazil.

One intact package (10 cm width × 15 cm length) (Fig. 1 and Suppl. Fig. 1 in Florida Entomologist 97(2) (2014) online at http://purl.fcla.edu/fcla/entomologist/browse) containing 20 g of dried parts (inflorescences and rods) of *M. recutita* was bought by a consumer from a supermarket in Viçosa, Minas Gerais, Brazil for US$0.35 in 28 Aug 2013. The manufacturer is legal and regulated by the Brazilian government, because the package had the numbers of the National Registry of Legal Entities and State Registration. The product was manufactured on 16 Apr 2013 with an expiration date of 1 year from the date of manufacture.

The above-mentioned consumer observed adult beetles inside the *M. recutita* package and sent it to the Laboratory of Biological Control of Insects of the Federal University of Viçosa (UFV) in Viçosa, Minas Gerais, Brazil. The package was opened and the number of adult beetles counted. Ten adult beetles were placed inside an Eppendorf vial with 70% ethanol and sent to the Laboratory of Integrated Pest Management of Grains of the Department of Agricultural Engineering of the UFV, where they were identified by a table magnifier based on keys and taxonomic descriptions (Papadopoulou & Buchelos 2002b).

Fig. 1. Package intact (10 cm width × 15 cm length) (verse) of *Matricaria recutita* (Asteraceae) (source: second author).

The insects observed were identified as *L. serricorne*, so this is the first report of this pest in stored *M. recuttia* in Brazil. One hundred and five adults of this insect (101 live and 4 dead) were counted inside the *M. recutita* package. *Lasioderma serricorne* adults are 2-3 mm long with brown color (Omae et al. 2012). This insect is a good flier (Papadopoulou & Buchelos 2002a) and the adults live for 2 to 6 weeks (Ashworth 1993).

Adult *L. serricorne* feed on the dried parts (inflorescences and rods) of *M. recutita*, which makes this product unfit for consumption. We observed feces and remnants of plant parts in the sample infested together with the loss of aroma of the essential oil of this plant.

We surmised that the *M. recutita* in the infested package was probably harvested from an infested field and packaged with *L. serricorne* eggs, because the adults probably emerged in Aug 2013. The development of *L. serricorne* depends on climatic conditions with a duration that decreases as the temperature increases (Ashworth 1993). The average temperature at Viçosa was 17.4 °C between the date of packaging and the purchase of the product, which could have increased the longevity of *L. serricorne* adults (Ashworth 1993). The periods of egg, larva, pupa, and from egg to adult of *L. serricorne* are 4.6 to 6.6 days; 38.0 to 92.0 days; 4.6 to 18.3 days and 46.0 to 109.2 days, respectively, depending on the temperature and food source (Mahroof & Phillips 2008).

This is the first report of *L. serricorne* feeding and reproducing in packaged *M. recutita* in Brazil.

Acknowledgments

To the Brazilian agencies "Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq)", "Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES)" and "Fundação de Amparo a Pesquisa do Estado de Minas Gerais (FAPEMIG)" for financial support.

Summary

Insects pests of stored products and by-products are extending their feeding preferences to new items. We report for the first time in Brazil the feeding and reproduction of the cigarette beetle, *Lasioderma serricorne* F. (Coleoptera: Anobiidae) on stored chamomile, *Matricaria recutita* L. (Asteraceae). One intact package (10 cm wide × 15 cm long) of *M. recutita* infested by *L. serricorne* was purchased in a supermarket in Viçosa, Minas Gerais, Brazil. In this sample this insect had fed on the dried parts (inflorescences and rods), which made the product unfit for human consumption. This 20 g sample included 101 live and 4 dead *Lasioderma serricorne*. Circumstantial evidence suggested that the infested material was probably harvested from an infested field in Apr 2013 and packaged with *L. serricorne* eggs, and that these had developed into the adults found in the package.

Key Words: Asterales, Bostrichiformia, Bostrichoidea, chamomile, medicinal plant

Resumo

Insetos praga de produtos e subprodutos armazenados têm se alimentado de novos itens. O objetivo é relatar o besouro-do-fumo, *Lasioderma serricorne* F. (Coleoptera: Anobiidae) se alimentando e reproduzindo em camomila, *Matricaria recutita* L. (Asteraceae) armazenada no Brasil. Um pacote intacto (10 cm de largura × 15 cm de comprimento) de *M. recutita*, infestado por *L. serricorne*, foi comprado em um supermercado em Viçosa, Minas Gerais, Brasil. Este inseto se alimentou das partes secas (inflorescências e hastes) dessa planta, o que tornou o produto impróprio para consumo. *Lasioderma serricorne* se alimentou e reproduziu em *M. recutita* armazenada em embalagem plástica no Brasil.

Palavras Chave: Asterales, Bostrichiformia, Bostrichoidea, camomila, planta medicinal

References Cited

Ashworth, J. R. 1993. The biology of *Lasioderma-serricorne*. J. Stored Prod. Res. 29(4): 291-303.

Machado, E. H. L., Alves, E. C., Faustino, M. A. D., and Machado, E. D. L. 2008. Occurrence of weevils (Insecta: Coleoptera) in pet food traded in the Metropolitan Region of Recife, Pernambuco State, Brazil. Neotrop. Entomol. 37(5): 602-605.

Mahroof, R. M., and Phillips, T. W. 2008. Life history parameters of *Lasioderma serricorne* (F.) as influenced by food sources. J. Stored Prod. Res. 44(3): 219-226.

Omae, Y., Fuchikawa, T., Nakayama, S., Okada, K., Miyatake, T., Sasaki, R., and Shinoda, K. 2012. Life history and mating behavior of a black-bodied strain of the cigarette beetle *Lasioderma sericorne* (Coleoptera: Anobiidae). Appl. Entomol. Zool. 47(2): 157-163.

Papadopoulou, S. C., and Buchelos, C. T. 2002a. Definition of the flight period of *Lasioderma serricorne* (F.) in stored tobacco. J. Pest Sci. 75(3): 81-83.

Papadopoulou, S. C., and Buchelos, C. T. 2002b. Identification of female adult *Lasioderma serricorne* (F.) by simple external observation of the abdomen. J. Stored Prod. Res. 38(3): 315-318.

Poderoso, J. C. M., Correia-Oliveira, M. E., Vieira, J. M., Ribeiro, G. T., Ribeiro, R. C., and Zanuncio, J. C. 2013. *Lasioderma serricorne* (Coleoptera: Anobiidae): first record in dehydrated bee pollen in Sergipe State, Brazil. Florida Entomol. 96(2): 682-685.