

Lamprolonchaea brouniana (Diptera: Lonchadeidae)

This short description has been prepared in the framework of the EPPO Study on Pest Risks Associated with the Import of Tomato Fruit. The whole study can be retrieved from the EPPO website.

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Africa	Asia	Oceania	North America	South-Central America and Caribbean
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***Lamprolonchaea brouniana* (Diptera: Lonchadeidae) (Australian metallic green tomato fly) (syn. *L. rugosifrons*, *Lonchaea brouniana*)**

Why	Identified in the EPPO tomato study. Although this pest is mentioned as a pest of tomato on several website (e.g. http://lonchaeidae.myspecies.info/lamprolonchaea-brouniana-metallic-green-tomato-fly), only one detailed publication was found (Blacket and Malipatil, 2010). Other references seem to refer to the taxonomy and description of the species.
Where	EPPO region: absent Oceania: Australia (New South Wales, Northern Territory, Queensland, Victoria, Western Australia - Blacket and Malipatil, 2010) Note: Another metallic green tomato fly (<i>L. smaragdi</i>) occurs in the Pacific (incl. Australia), Africa and the Mediterranean region.
Climatic similarity	High. 8 common climates, considering the distribution map in Blacket and Malipatil (2010), which also mention that it is most common in the temperate south of Australia. The climates where it has been recorded in Australia occur in the EPPO region in Western, Northern and Central Europe as well as the Mediterranean Basin and Near East to the Black Sea.
On which plants	(All from Blacket and Malipatil, 2010). Preference for <i>Lycopersicon</i> and <i>Solanum</i> . Also found on potato, eggplant, and other Solanaceae. Larvae are more frequent in tomato, and regularly occur in other Solanaceae (Capsicum and eggplant), Rosaceae (apricot, nectarine, peach), Rutaceae (grapefruit, lemon, mandarin, orange), and Lauraceae (avocado) (some larvae also raised from cow dung, rockmelon, walnut fruit). Note: the record for potato is not clear, possibly referring to decaying stems only.
Damage	The species is described in Bezzi (1923). Blacket and Malipatil (2010) cite old record of serious damage on tomato (from the 1910-20s). <i>L. brouniana</i> was previously thought to be a secondary pest on damaged or infested fruit, but there is evidence of primary pest role. No detail of damage or pest importance was found in contemporary literature. Some sites or fora refer to the “tomato fly” or “metallic tomato fly” in advice on tomato growing, but both <i>Bactrocera tryoni</i> and <i>Ceratitis capitata</i> also occur in the same areas, and advice often first target those (e.g. http://agspsrv34.agric.wa.gov.au/ento/medfly.htm).
Dissemination	Larvae are in fruit, and trade of fruit could spread the pest. Stages may be associated with plants for planting. Adults fly.
Pathway	Fruit and vegetable, plants for planting? of host plants from countries where <i>L. brouniana</i> occurs.
Possible risks	Solanaceous hosts and other fruit mentioned are important in the EPPO region, and tomato is a main host. The climatic similarity according to the EPPO Study between the area where it occurs and the EPPO region is high. The pest is regulated at least by New Zealand and the USA for tomatoes from Australia (Biosecurity NZ, 2000, GPO, 2007?). It has been intercepted on tomatoes from Australia to New Zealand (Blacket and Malipatil, 2010). Although the pest risk is not clear, it is one which clearly may be introduced with tomato fruit.
Categorization	New Zealand (Biosecurity 2000, MPI, 2013), USA (GPO, 2007?)
Sources	Bezzi, M. 1923. On the Australian Lonchaeidae. Australian Zoologist 3:183-185 (1923) http://biostor.org/reference/102131 Biosecurity NZ. 2000. Import Health Standard Commodity Sub-class: Fresh Fruit/Vegetables Tomato, <i>Lycopersicon esculentum</i> from Australia. Issued pursuant to Section 22 of the Biosecurity Act 1993. Date Issued: 9 June 2000. Blacket MJ, Malipatil BM. 2010. Redescription of the Australian metallic-green tomato fly, <i>Lamprolonchaea brouniana</i> (Bezzi) (Diptera: Lonchaeidae), with notes on the Australian <i>Lamprolonchaea</i> fauna Zootaxa 2670: 31–51 (2010)

GPO. 2007?. 7 CFR 319.56-2dd - Administrative instructions: conditions governing the entry of tomatoes. In CFR (Code of Federal Regulations), 7 (Agriculture), B (REGULATIONS OF THE DEPARTMENT OF AGRICULTURE), Chapter III (ANIMAL AND PLANT HEALTH INSPECTION SERVICE, DEPARTMENT OF AGRICULTURE), PART 319 (FOREIGN QUARANTINE NOTICES). US Government printing office. Page available at <http://www.gpo.gov/fdsys/pkg/CFR-2006-title7-vol5/pdf/CFR-2006-title7-vol5-sec319-56-2ee.pdf> and google books

MPI. 2013. Risk Management Proposal Alternatives to dimethoate to manage the export of fruit fly host commodities: Irradiation of fresh *Capsicum annuum* L. (capsicum) and *Lycopersicon esculentum* L. (tomato) for human consumption from Australia to New Zealand. FOR PUBLIC CONSULTATION, May 2013. <http://www.biosecurity.govt.nz/files/biosec/consult/rmp-irradiation-of-fresh-capsicum-and-tomatoes.pdf>

PADIL. ND. *Lamprolonchaea brouniana*. <http://www.padil.gov.au:80/maf-border/Pest/Main/140544>

Two references by McAlpine were not found.

McAlpine JF. 1964. Descriptions of new Lonchaeidae (Diptera). I. *Canadian Entomologist*, 96, 661-700.

McAlpine JF. 1987. Chapter 62. Lonchaeidae. In: McAlpine JF, Peterson BV, Shewell GE, Teskey HJ, Vockeroth JR & Wood DM (eds.), *Manual of Nearctic Diptera*, Volume 2, Number 28, Ottawa, pp.791-797.