

This short description was prepared in the framework of the EU FP7 project DROPSA - Strategies to develop effective, innovative and practical approaches to protect major European fruit crops from pests and pathogens (grant agreement no. 613678). This pest was listed in the DROPSA alert list for orange and mandarin fruit.

Neosilba zadolicha (Diptera: Lonchaeidae)

Location of life stages on plant parts: larvae in fruit (Uchôa-Fernandes et al., 2002). The location of eggs is unknown (inside or on fruit, or other plant parts) (Uchôa, 2012).

Fruit pathway: yes, at least as larvae.

Other pathways: plants for planting with fruit.

Hosts: Polyphagous, hosts include *Citrus reticulata* (Lopes et al., 2008), *Citrus jambhiri*, *Terminalia catappa*, *Strychnos pseudoquina*, *Byrsonima orbignyana*, *Inga laurina*, *Ficus insipida*, *Syzygium jambos*, *Psidium kennedyanum*, *Ximenia americana*, *Passiflora aleyrona*, *Passiflora edulis*, *Alibertia edulis*, *Genipa americana*, *Pouteria glomerata*, *Pouteria ramiflora*, *Pouteria torta*, *Physalis angulata*, *Psittacanthus acinarius*, (Uchôa, 2012), *Prunus persica* (Montes et al., 2010), *Byrsonima crassifolia*, *Annona crassiflora*, *Annona muricata*, *Psidium guajava*, *Metrodorea flavida*, *Citrus sinensis*, *Artocarpus communis*, *Pouteria macrophylla*, *Solanum gilo*, *Capsicum* (Strikis et al., 2011).

Distribution: South America: Brazil (Adaime et al., 2012), Colombia (Galeano-Olaya and Canal, 2012).

Damage: *N. zadolicha* is reported among the species of *Neosilba* of importance in South America (Riquelme, 2012). In Mato Grosso do Sul (Brazil), the number of adults of *Neosilba* reared from Citrus fruits in sites surveyed was much higher than that of *Anastrepha* and *Ceratitidis capitata*, suggesting economic importance of *Neosilba* as a primary pest in citrus fruits (Uchoa-Fernandez et al 2002); among those, *N. zadolicha* was identified to species level (Uchoa-Fernandez et al, 2003). *N. zadolicha* is also an occasional pest of *Byrsonima crassifolia* (tropical fruit) (Adaime et al., 2012). *N. zadolicha* is the frugivorous pest with the highest economic impact to tangerines in Matinhas, Brazil (above *C. capitata*). It does not make deep punctures in fruit as *C. capitata*, and if they do, these are not visible to the 'naked eye' (Lopes et al., 2008).

Other information: A number of *Neosilba* species were identified during this screening, such as *N. batesi*, *N. glaberrima*, *N. inesperata*, and *N. pendula*. They were thought to be secondary pests, attacking fruit damaged by other pests, although some species of *Neosilba* originally thought to be secondary have been shown to be primary pests. In Sao Paulo, Brazil, *Neosilba* spp. were collected on *C. sinensis*, *C. aurantium*, *C. reticulata*, 'Murcott' tangor, *Fortunella* sp., and *C. limonia* (Raga et al., 2004), and *Neosilba* was shown as primary invaders on citrus (Raga et al., 2004, Souza-Filho et al., 2009). Only for *N. zadolicha* was there evidence of impact as a primary pest that led to its addition to this Alert List. Information is lacking on other species, although they are considered as a possible emerging threat. The identification of *Neosilba* appears to be complex, and they seem to be identified mostly to genus level in most of the studies found. Many new species were described only recently, including some with still unknown hosts; a key to 40 species is given in Galeano-Olaya and Canal, 2012).

Recorded impact: Moderate (uncertain)	Intercepted: Not known	Spreading/invasive: Not known
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References:

- Adaime R, Strikis PC, De Souza-Filho MF, Lima CR, Lasa R. 2012. First report of Lonchaeidae (Diptera) infesting fruits of *Byrsonima crassifolia* in Brazil. *Revista Colombiana de Entomología* 38 (2): 363-364.
- Galeano-Olaya PE, Canal NA. 2012. New species of *Neosilba* McAlpine (Diptera: Lonchaeidae) and new records from Colombia. *Papeis Avulsos de Zoologia*. Volume 52(31):361-385, 2012.
- Lopes EB, Batista de Luna J, Cavalcanti de Albuquerque I, Henrique de Brito C. 2008. Moscas frugívoras (Tephritidae e Lonchaeidae): ocorrência em pomares comerciais de tangerina (*Citrus*

- reticulata Blanco) do município de Matinhas, Estado da Paraíba. *Acta Sci. Agron. Maringá*, v. 30, supl., p. 639-644, 2008
- Montes SNMN, Raga A, Boliani AC, Strikis PC, Dos Santos PC. 2010. Infestación natural de Lonchaeidae (Diptera) en variedades de melocotón. *Revista Colombiana de Entomología* 36 (2): 223-228 (2010)
- Raga A, Prestesi DAO, Souza Filho MF, Sato ME, Siloto RC, Guimaraes JA, Zucchi RA. 2004. Fruit Fly (Diptera: Tephritoidea) Infestation in Citrus in the State of São Paulo, Brazil. *Neotropical Entomology* 33(1):085-089 (2004)
- Riquelme CPI. 2012. Lonchaeidae (Diptera; Tephritoidea) asociados al genero Annona. MSc thesis. Montecillo, Mexico.
- Souza-Filho MF, Raga A, Azevedo-Filho JA, Strikis PC, Guimarães JA, Zucchi RA. Diversidade e variação sazonal de moscas-das-frutas (Diptera: Tephritidae, Lonchaeidae) e seus parasitóides (Hymenoptera: Braconidae, Figitidae) em pomares de goiaba, nêspera e pêssego. *Braz. J. Biol.*, 69(1): 31-40, 2009
- Strikis, PC, da Glória de Deus E, Adaima da Silva R, Braga Pereira JD, Ramos de Jesus C, Marsaro Júnior AL. 2011. Conhecimento sobre Lonchaeidae na Amazônia brasileira. Chapter 13 In *Moscas-das-frutas na Amazônia brasileira: diversidade, hospedeiros e inimigos naturais*, pp205-215.
- Uchôa MA. 2012. Fruit Flies (Diptera: Tephritoidea): Biology, Host Plants, Natural Enemies, and the Implications to Their Natural Control, Integrated Pest Management and Pest Control - Current and Future Tactics, Dr. Sonia Soloneski (Ed.), ISBN: 978-953-51-0050-8, InTech.
- Uchoa-Fernandes MA, De Oliveira I, Molina RMS, Zucchi RA. 2002. Species Diversity of Frugivorous Flies (Diptera: Tephritoidea) from Hosts in the Cerrado of the State of Mato Grosso do Sul, Brazil. *Neotropical Entomology* 31(4):515-524
- Uchoa-Fernandes MA, De Oliveira I, Molina RMS, Zucchi RA. 2003. Biodiversity of Frugivorous Flies (Diptera: Tephritoidea) Captured in Citrus Groves, Mato Grosso do Sul, Brazil. *Neotropical Entomology* 32(2):239-246 (2003)