DOI: 10.1590/1808-1657000882016

# Record of *Neosilba zadolicha* Mcalpine & Steyskal (Diptera: Lonchaeidae) in Mandacaru fruits

## *Registro de* **Neosilba zadolicha** *Mcalpine & Steyskal (Diptera: Lonchaeidae) em frutos de Mandacaru*

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**ABSTRACT:** For the first time, the presence of *Neosilba zadolicha* McAlpine & Steyskal is being recorded in mandacaru fruits [*Cereus jamacaru* DC.], in the municipality of Alvorada do Gurgueia, in the south-central region of the State of Piauí, Brazil (8º22'35.63" S, 43º51'25,96" W). Eleven specimens were obtained from mandacaru fruits in an area of native forest between February and May of 2016. This is the first record of *N. zadolicha* in a Cactaceae species.

**KEYWORDS:** Tephritoidea; fruit fly; native fruit; *Cereus jamacaru.*

**RESUMO:** Registra-se a ocorrência de *Neosilba zadolicha* McAlpine & Steyskal pela primeira vez em frutos de mandacaru (*Cereus jamacaru* DC.), no município de Alvorada do Gurgueia, centro-sul do estado do Piauí (8º22'35.63" S, 43º51'25,96" W). Foram obtidos 11 exemplares de frutos de mandacaru, em área de mata nativa, de fevereiro de 2016 a maio de 2016. Este é o primeiro registro de *N. zadolicha* em uma espécie de Cactaceae.

**PALAVRAS-CHAVE:** Tephritoidea; mosca frugívora; fruto nativo; *Cereus jamacaru.*

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Received on: 12/03/2016. Accepted on: 04/19/2018

In Brazil, Diptera, from the Lonchaeidae family, are represented by three genera: *Dasiops*, *Lonchaea* and *Neosilba* (LEMOS et al., 2015). Certain species are described as primary pests for Brazilian agriculture. Representatives of the *Dasiops* and *Neosilba* genera, for example, are considered to be species that are economically important for agriculture (STRIKIS et al., 2011; UCHOA, 2012). *Neosilba zadolicha* is considered a primary pest for Brazilian agriculture. Hosts are distributed among 20 families, with a greater frequency in the Rubiaceae, Anarcadiaceae and Anonaceae, followed by the Sapotaceae families (UCHOA, 2012).

Research on biodiversity in areas of native vegetation has been gaining prominence, especially because of deforestation and intense fires that degrade more and more tropical forest areas. As a result of uncontrolled deforestation and burning every year, habitat fragmentation and loss of biodiversity occurs. Due to this problem, many species that still have not been well studied by science, could become extinct, including fruit flies (QUERINO et al., 2010). Native forests are present in regions with tropical and temperate climates. Thus, native fruits present great potential as alternative hosts for frugivorous larvae (Tephritidae and Lonchaeidae) (QUERINO et al., 2010).

In the Caatinga and Cerrado biomes, there are some plant species whose fruits are used as food. However, the relationship of frugivorous flies to native fruits is still poorly understood (SANTOS et al., 2012).

The presence of frugivorous larvae in fruits is highly detrimental, as they have the potential to reduce fruit quality and prevent its commercialization. Loncheids have been considered secondary or opportunistic pests, since they take advantage of the perforations in fruits caused by tephritids (SANTOS et al., 2004). Currently, loncheids are also considered primary pests. The objective of this work was to record the occurrence and evaluate fruit flies' natural infestation of mandacaru fruits in the Cerrado-Caatinga area.

The study was conducted at the Farm School of the Universidade Federal do Piauí (UFPI), located in the municipality of Alvorada do Gurguéia in the south-central regions of the State of Piauí (8º22'35.63" S, 43º51'25,96" W). Mandacaru fruits were collected in an area of native forest between February and May of 2016. The fruits were then taken to the Plant Science Laboratory of the Universidade Federal do Piauí (UFPI / CPCE) in Bom Jesus, PI. In the laboratory, the fruits were weighed, individualized, placed in plastic pots containing autoclaved sand and covered with organza fabric so that flies could emerge. Lonchaeidae specimens were deposited at the Universidade de São Paulo (USP), under the care of researcher Pedro Carlos Strikis.

Six mandacaru fruits (701.3 g) were sampled from the soil and the plant, and two of the fruits were infested. From the fruit collected in the soil (201.395 g), eight specimens of frugivorous flies were obtained, seven Lonchaeidae individuals (3 males and 4 females) and one Diptera (male), which belongs to another family. From the fruit collected on the plant (123.684 g), four specimens of Lonchaeidae (2 males and 2 females) and one specimen of Lepidoptera were obtained. Therefore, 11 loncheids (six females and five males) were obtained from the mandacaru fruits, and they belong to *Neosilba zadolicha* McALpine & Steyskal. This species has a great predominance and a broad geographic distribution. The *Neosilba* genus mainly occurs in Neotropical regions and in Brazilian ecosystems, and it infests a wide range of hosts (STRIKIS et al., 2011). This is the first record of *N. zadolicha* infesting mandacaru fruits [*Cereus jamacaru* DC.] in a native forest area. Mandacaru is a member of the Cactaceae family, which exhibits characteristics of a xerophytic plant and of the caatinga of the Brazilian northeast. It grows in stony soils and mountainous areas, where it has a wide and continuous dispersion. Its flowering period mainly goes from November to January, and its fruits mature from March to April (LORENZI, 2009).

The presence of Lepidoptera and Diptera representatives in the same fruits as loncheids, indicates that the loncheids are probably opportunistic in the mandacaru, and they take advantage of the perforations caused by other frugivorous larvae. However, this should be investigated in laboratory studies by observing the holes left at the time of puncture. LOPES et al. (2007) found that *N. zadolicha* and *N. glaberrima* species do not create deep fruit punctures, like other frugivorous dipterans in Citrus, that is, there is a difference between the egg position of Lonchaeidae and Tephritidae. In fact, the loncheids puncture around the oil glands, forming a sort of belt around them.

This is the first record of the *N. zadolicha* species infesting mandacaru fruits in the Cerrado and Caatinga area.

## ACKNOWLEDGMENTS

We thank Professor Dr. Roberto Antonio Zucchi for suggestions about the paper. We thank the Universidade Federal do Piauí, for the Scientific Initiation scholarship (PIBIC / UFPI) given to the first author. GNL is supported by the Foundation for Research Support of the State of Piauí (FAPEPI / CNPq), CNPq process no: 301279 / 2015-2.

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