

Notes and Comments

First record and economic losses of the passionflower caterpillar in two biomes from Brazil

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The sour passion fruit, *Passiflora edulis* Sims, is one of the main species of economic importance that can be injured by a variety of insect pest that feeds upon all parts of the plant reducing production (Ferreira et al., 2019). However, the most important Lepidoptera pests are larvae *Dione juno juno* (Cramer) and *Agraulis vanillae vanillae* (Linnaeus) (Lepidoptera: Nymphalidae) (Angelini and Boiça Junior, 2015; Paynter et al., 2020).

The caterpillar of passion *Azamora penicillana* (Walker) (Lepidoptera: Pyralidae), attack leaves of passion (Santos and Costa, 1983) and fruits (Pirovani et al., 2020). However, *A. penicillana* damage in different biomes has not yet been studied because these studies are restricting to one municipally, evaluating just one area and not evaluated economic losses. Thus, this study report the attack and loss of the *A. penicillana* on fruit passion in Minas Gerais and Rio de Janeiro states from Brazil.

Adult and immature *A. penicillana* were collected in the passion fields in Minas Gerais and Rio de Janeiro States, Brazil (Table 1). These fields are located in the Cerrado (South of Minas and Alto Paranaíba) and Atlantic

forest (Zona da Mata) biomes. In cerrado biome the collect were in the Rio Paranaíba - MG (19°11'56.5"S 46°14'13.7"W), Viçosa - MG (20°45'22.3"S 42°52'59.9"W), Guaraciaba - MG (20°34'13.0"S 43°00'30.5"W), Carmo do Paranaíba - MG (19°00'05.5"S 46°18'49.3"W), Patos de Minas - MG (18°34'59.0"S 46°30'45.6"W), Alfenas -MG (21°24'59.4"S 45°57'14.7"W), São Gotardo - MG (19°18'45.9"S 46°03'02.5"W), and Patrocínio - MG (18°56'10.0"S 46°59'54.0"W). In the Atlantic forest biome the collect were in the Bom Jesus Itabapoana (21°08'47.0"S 41°40'51.0"W). The experiment was carried out when the passion fruit was with 6 months after planting. Passion fruits were sampled monthly from March to December 2019. Fruits were sampled at a distance of 20-30 m from each side of the trail, totaling a sampled area of about 30-60 samples per ha. The collected fruits were taken directly from the trees and the ground if they were freshly fallen. We evaluated fruits, flowers, leaves, stems with larvae of *A. penicillana*, and calculated the loss per Kg. Adults of *A. penicillana* were collected and stored 70% alcohol, and taken to the Laboratory of the Universidade Federal de

Table 1. Yield, economic losses and part of the plant from sour passion fruits attacked per *Azamora penicillana* in Minas Gerais and Rio de Janeiro (2019-2020).

Fields	Cultivar	Parts of the plant				Loss (%)	Yield (Kg ha ⁻¹)	Loss (US ha ⁻¹)
		Leaf	Flower	Fruit	Stem			
R. Paranaíba-MG ¹	I	x	x	x	x	35.4±7.07	18.2	67.6
Viçosa-MG ³	III	x	x	x		2.7±0.01	28.3	8.3
Guaraciaba-MG ³	I	x	x	x	x	5.8±0.03	27.5	17.2
C. do Paranaíba-MG ¹	II	x	x	x	x	3.5±0.01	25.4	9.4
P. de Minas-MG ¹	III	x	x	x		3.1±0.03	29.7	9.9
Alfenas-MG ²	I	x	x	x		1.4±0.02	27.4	4.2
S. Gotardo-MG ¹	II	x	x	x		0.7±0.01	28.5	2.1
Patrocínio-MG ¹	III	x	x	x		0.5±0.01	27.6	1.6
B.J. Itabapoana-RJ	II	x	x	x	x	1.8±0.05	25.9	5.2

¹Alto Paranaíba; ²South of Minas Gerais and ³Zona da Mata; Price sour passion fruits (R\$ Kg⁻¹); ⁴Average of samples March to December 2019; I- BRS Rubi, II- BRS Gigante, III- BRS Sol do Cerrado.

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Received: December 10, 2020 – Accepted: March 24, 2021



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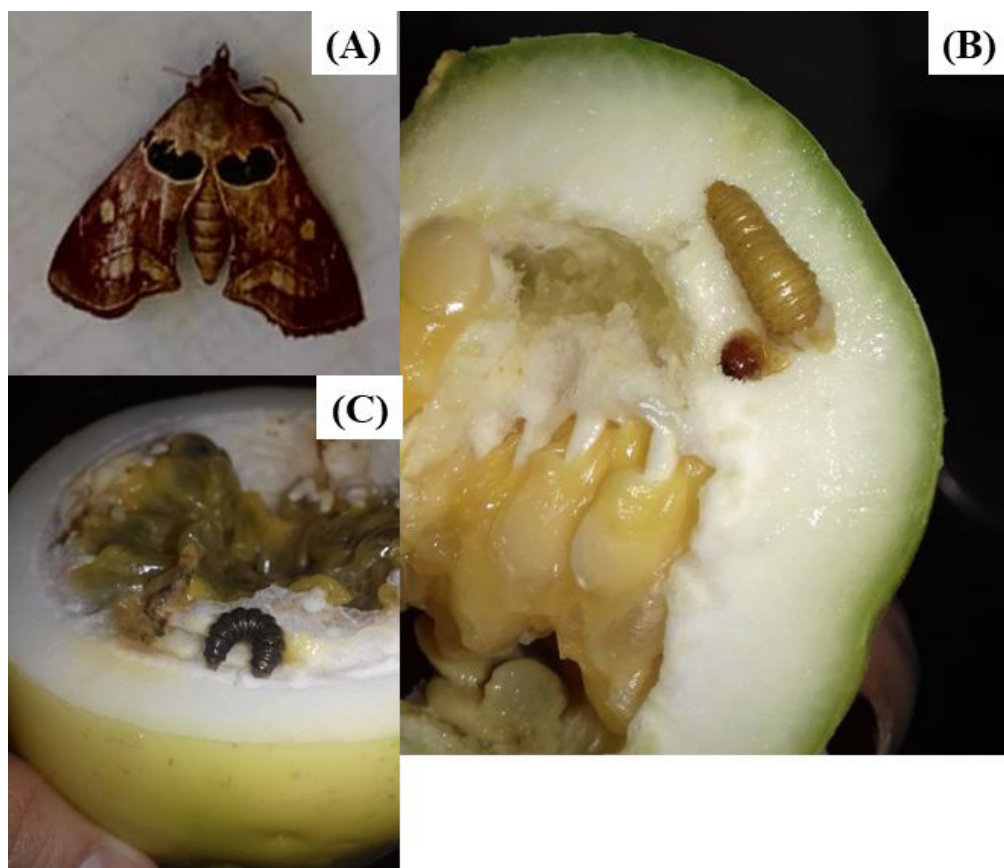


Figure 1. Injurie of *Azamora penicillana* on sour passion fruits, Rio de Janeiro and Minas Gerais States, Brazil. (A) adult, (B,C) larvae of *A. penicillana*.

Viçosa, Campus de Rio Paranaíba to the identification by means of comparison in the literature and taxonomic keys. The mean air temperature, precipitation, and relative air humidity of these months were 24 ± 11 °C, 25 ± 15 mm/day, and $69.9 \pm 22\%$ (INMET, 2019), respectively.

The adults oviposited on the leaves, flowers, and stem. The larvae attacked the leaves and migrated to the fruits (Figure 1A, B, and C). Damage to fruit increased as the months progressed, reflected by multiple rotten fruits (Table 1). Was observed fruit loss from 0.5 to 35.4% and economic loss from U\$1.6 to 67.6 per ha in passion fruits (Table 1). This pest can cause both yield losses and decrease of fruit quality in passion field (Joy and Sherin, 2013).

This report confirms *A. penicillana* feeding *P. edulis* leaves and fruits, in State of Minas Gerais and Rio de Janeiro, Brazil, thus highlighting the potential of this insect to affect passion production negatively.

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