

Notes and Comments

## First record of *Zaprionus tuberculatus* (Malloch, 1932) (Diptera: Drosophilidae) in Paraíba state, Brazil

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The genus *Zaprionus*, Coquillett 1902 (Diptera: Drosophilidae) originates from the Afrotropical and Oriental regions. The genus comprises about 48 described species (Yassin and David, 2010); among them, two species with wide distribution worldwide are notable: *Z. indianus* (Gupta, 1970) and *Z. tuberculatus* (Chassagnard and Tsacas, 1993). In Brazilian territory, *Z. indianus* was first recorded in 1999 (Vilela, 1999), and *Z. tuberculatus* in 2020 (Cavalcanti et al., 2022).

*Zaprionus tuberculatus*, popularly known as the vinegar fly, is characterized by two longitudinal white dorsal stripes along the head and thorax, as well as the presence of a spur supported on a prominent tubercle on the mid-ventral margin of the anterior femur (Tsacas et al., 1977) (Figure 1). The first occurrence record of *Z. tuberculatus* in the Americas was in Brasília, Brazil (Cavalcanti et al., 2022). After the initial record, occurrences were reported in five Brazilian states: São Paulo (Mateus and Machado, 2022; Montes and Vilela, 2022), Rio de Janeiro (Faria and Bitner-Mathé, 2023), Rio Grande do Sul (Jobim et al., 2023), Santa Catarina (Santos et al., 2023), and Minas Gerais (Moreira et al., 2023).

This note presents the first *Z. tuberculatus* record in Paraíba state, Brazil, specifically at Fazenda Almas (-7.446710°S, -36.892285°W), in the São José dos Cordeiros municipality, in the Cariri Paraibano. The record was made during a drosophilids survey in the study area. The research aimed to report information on the incidence of *Zaprionus* genus fruit flies in an experimental guava orchard (7° 28" S, 36° 52" W), *Psidium guajava* var. 'paluma', Myrtaceae. This research is fundamental to gathering information on the geographic distribution and expansion of the species studied to aid in the development of measures for pest management programs.

Harvest was made from August 2021 to July 2022, and natural infestation of *Z. tuberculatus* was observed in guava fruits harvested when showing signs of fruit fly infestation. The fruits and flies were sorted at the Invertebrates Laboratory (LABIN) of the Center for Agricultural Sciences, Universidade Federal da Paraíba. The fruits were individually weighed on a scale, placed in plastic trays with a layer of sterilized sand, and covered with voile fabric, allowing gas exchange. They were kept like this for 15 days or until fly emergence. The emerged drosophilids were collected and stored in 70% alcohol. *Zaprionus* adults were identified, according to Cavalcanti et al. (2022). The first specimens of *Z. tuberculatus* were identified in May 2022 (Figure 1). From the collections, 1.361 drosophilids specimens were identified in guava fruits, of which 8.08% were *Z. tuberculatus*.

*Zaprionus* fruit flies are pests of 49 plant species (EPPO, 2023). This is the first record of *Z. tuberculatus* in the Paraíba state. Although a large number of specimens were not collected, the potential for dissemination of this pest worldwide is evident, easily explained by its wide range of host plant species and adaptability to different climatic conditions (Parkash and Yadav, 1993).

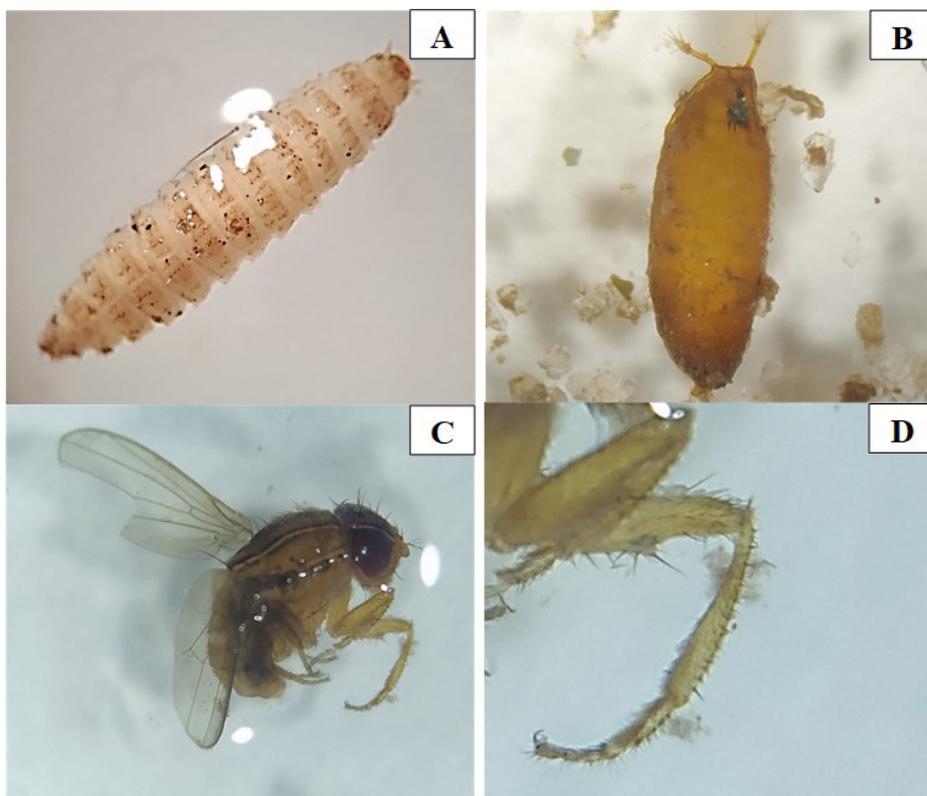
Considering the rapid spread of this fruit fly species in Brazilian territory due to its introduction through fruit trade with other countries, there is a clear need to intensify monitoring of *Z. tuberculatus* in other locations in the Paraíba state, as well as to characterize the populations of this pest insect and understand its population dynamics to aid in future studies for pest management programs.

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**Figure 1.** *Zaprionus tuberculatus* in larval stage (A), pupal stage (B), adult on lateral surface (C), and spur on the mid-ventral margin of the anterior femur, a characteristic that differentiates it from other species of this genus (D), found in guava fruits (*Psidium guajava* L.), at Fazenda Almas, São José dos Cordeiros - Paraíba, Brazil.

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