First record of *Caliothrips phaseoli* Hood, 1912 (Thysanoptera: Thripidae) causing damage to forage grasses

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Abstract. This paper reports the first record of *Caliothrips phaseoli* Hood, 1912 (Thysanoptera: Thripidae) causing damage to forage grasses of the species *Panicum maximum* in the pasture formation phase. Due to the damage observed, it is assumed that the occurrence of these insects at the beginning of the grass implementation phase can, in large infestations, reduce the photosynthetic area of the plants, delaying their growth and consequently the formation of the pasture.

Keywords: Thrips, Pasture pests, Pasture formation.

Thrips are small insects that suck sap from the leaves, flowers and fruits of various plants. The damage can be direct, causing striations, deformations and silverying of the leaves, or indirect, influencing the transmission of viruses in different crops. Most species are either phytophagous or fungivorous (Mound 2005), but a few have predatory habits (Wang et al. 2022), and around 150 are important agricultural pests (Mound et al. 2022).

Many Thysanoptera groups are associated with forages. Most of them, such as *Bregmatothrips* Hood, 1912, *Chirothrips* Haliday, 1836 and *Plesiorthrips* Hood, 1915, are associated with Poaceae species (Mound 2011; Nakahara & Footit 2012; Mound et al. 2016), and a few have been reported as occurring in or damaging legume pastures, such as *Enneothrips enigmaticus* Lima et al., 2022 (Thysanoptera: Thripidae) in *Arachis pintoi* Krapov & W.C. Gregory (Fazolín et al. 2015; Lima et al. 2022).

In a newly formed pasture area in Mato Grosso do Sul state in Brazil with the forage grass *Panicum maximum* cv. BRS Kenya (20°25’15.9” S, 54°41’19.7” W) in March 2022, leaf chlorosis was detected in most plants in the cultivated area (Fig. 1). Plants covering the entire area (15 ha) were randomly inspected seven days after emergence (Fig. 2). During the inspection, specimens of thrips were found (Fig. 4), and a single sample of 88 specimens was collected with an entomological aspirator and stored in a bottle containing 70% alcohol. A subsample containing 44 specimens was separated and sent for identification. The material was prepared on permanent microscopy slides and subsequently identified. Voucher specimens were deposited in the Natural History Collection of the Federal University of Piauí.

Fourteen days later, another inspection was carried out in the area, following heavy rain in the region. In this inspection, few specimens were observed, along with less damage to the grass leaves. Over the following months, with the development of the plants, no further damage was observed.

The specimens collected were identified as *Caliothrips phaseoli* Hood, 1912 (Thysanoptera: Thripidae) (Fig 4). This is the first record of this species in forage grasses.

Individuals of *C. phaseoli* are polyphagous and considered important pests of bean and soybean crops, having also been reported in cotton, peanut, mint, grape and lettuce plants, among others (Monteiro et al. 1999; Beltrán et al. 2004; Boito et al. 2006; Boija Junior et al. 2015; Lima et al. 2016; Ferreira 2018; Boscardin et al. 2019; Lima et al. 2020; Neves et al. 2022; Warpechowsky et al. 2024).

The species was initially described in the United States, but is widely distributed in the Americas and is the most commonly found *Caliothrips* species in Brazil. Adults are dark brown bicolored legs and fore wings. Females being larger than males, measuring approximately 1.1 mm (Lima et al. 2020). The cycle from egg to adult lasts around 19 days in bean plants (Sosa et al. 2017), with direct damage resulting from sap sucking, which causes injury and, depending on the attack and the plant attacked, punctures and leaf falls (Boscardin et al. 2019).

![Figure 1. Caliothrips phaseoli damage on Panicum maximum 7 days after seedling emergence (Photo: Fabricia Z. V. Torres).](image)
caterpillar, *Mocis latipes* (Guenée, 1852) (Lepidoptera: Erebidae); the military caterpillar, *Spodoptera frugiperda* (Smith, 1797) (Lepidoptera: Noctuidae); and the elasm caterpillar, *Elasmopalpus lignosellus* (Zeller, 1848) (Lepidoptera: Pyralidae) (Torres 2022).

*Caliothrips phaseoli* is mainly associated with leguminous plants, and this is the first record of the species in a Poaceae in Brazil (Lima et al. 2020). Thus, special attention is recommended in areas where forage grasses are planted next to crops such as peanuts, forage peanuts, beans and soybeans or in grass-legume consortiums. In these cases, the treatment of seeds with insecticides registered for pastures is recommended as a preventive measure.

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FZVT: Conceptualization, Data curation, Funding acquisition, Investigation, Methodology, Writing - original draft; LCT: Conceptualization, Investigation, Writing - review & editing; ÉFBL: Data curation, Formal analysis, Writing - review & editing.

**Conflict of Interest Statement**

We have no conflicts of interest to disclose.

**References**


