

P₃₀ *Lutzomyia longipalpis* in intense and very intense transmission areas of visceral leishmaniasis in the Northeast and Central-West regions of Brazil

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Abstract

In the Americas, *Lutzomyia longipalpis* is the main vector of *Leishmania infantum*. Our study aimed to quantify the fauna of *Lu. longipalpis* in the urban areas of Campo Grande (MS) and São Luís (MA), both classified as intense and very intense VL transmission areas, respectively. Collection efforts were conducted over three consecutive nights between August 2021 and August 2023 in São Luís and from July 2021 to August 2023 in Campo Grande with automatic light traps (CDC-type) in indoor and outdoor areas of 10 residences per city, from 6:00 p.m. to 6:00 a.m. *Lutzomyia longipalpis* was captured in all months and sampling points in Campo Grande, with 1,082 specimens (785 males and 297 females). Of these, 52% were captured indoors and 48% outdoors. The highest number of sandflies in the intra-domicile was likely due to the presence of a dog, where we observed the highest concentration of these dipterans. In São Luís, a total of 3,059 *Lu. longipalpis* were captured (2,182 males and 877 females). Of these, 13% were indoor and 87% outdoor. Interestingly, with the same sampling effort in the areas, differences in the densities of *Lutzomyia longipalpis* between the areas were observed. It could be explained by the ecological characteristics of the areas located in different biomes. The species has adapted to the anthropic environment, especially in areas with an abundance of organic matter, chicken coops, pig pens, and domestic dogs. In these environments, sandflies find ideal breeding, shelter, and food sites. These characteristics may justify the large number of specimens in all sampling points in both cities since many areas present an environment for the development of these dipterans.

Keywords: *Lutzomyia longipalpis*, Phlebotomine, visceral leishmaniasis, Brazil