

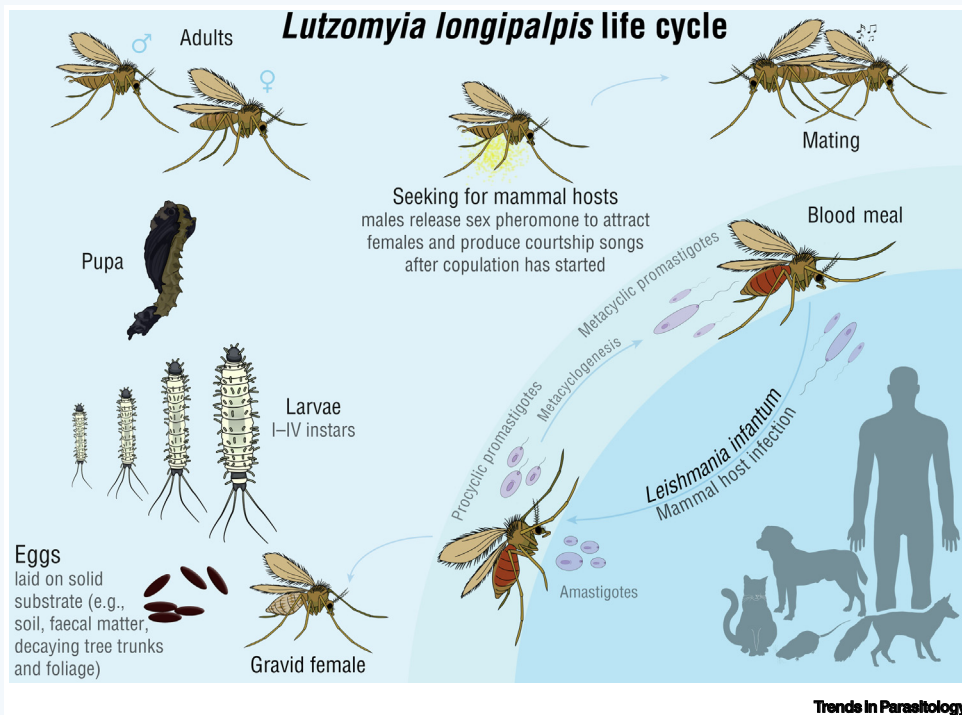
# *Lutzomyia longipalpis* (Sand Fly)

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**TRANSMISSION FACTS:**

*L. longipalpis* adults may rest in human houses and animal shelters during the day. The biting activity of females is crepuscular and nocturnal.

Sequential blood meals by *L. infantum*-infected *L. longipalpis* females increase infective forms in their gut, potentially augmenting their infectiousness.

*L. infantum* transmitted by some *L. longipalpis* populations (with low amounts of maxadilan (a salivary peptide) may cause cutaneous lesions in Central America.

The sand fly promastigote secretory gel and gut microbiota are egested into host skin during the bite, playing a role in the establishment and visceralization of *Leishmania* infections.

*L. longipalpis* is widely used as model for experimental transmission, with high biting rate on chicken skin membranes. It is also permissive to several *Leishmania* spp. under laboratory conditions.

**CONTROL FACTS:**

Insecticide-treated nets and indoor residual spraying can reduce indoor transmission. Both strategies can be boosted when combined with synthetic sex-aggregation pheromones, which attracts both males and females.

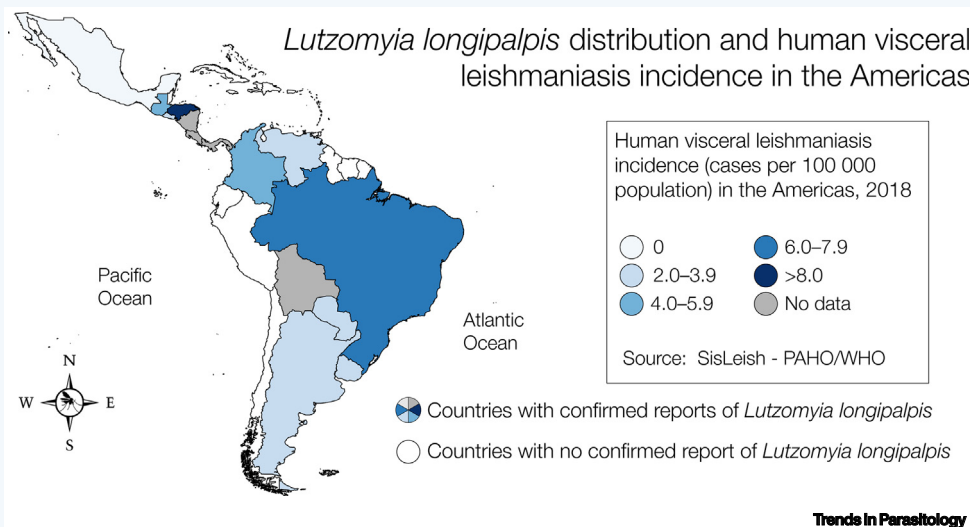
Applying topical insecticides (e.g., pyrethroid-based products) on dogs can reduce their exposure to the vectors. The extended use of this strategy in Brazil has not increased *L. longipalpis* insecticide resistance.

**TAXONOMY AND CLASSIFICATION:**

- PHYLUM:** Arthropoda
- CLASS:** Insecta
- ORDER:** Diptera
- FAMILY:** Psychodidae
- GENUS:** *Lutzomyia*
- SPECIES:** *L. longipalpis* (Lutz and Neiva 1912)

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*Lutzomyia longipalpis* appears primarily in Central and South America and is the main vector of visceral leishmaniasis (VL) caused by *Leishmania infantum*. In Brazil, the country reporting the highest number of human VL cases in the region, this sand fly is reported in 24 of 27 states. *L. longipalpis* is adapted to human dwellings, which contributes to its spreading in rural and urban areas. Female sand flies are catholic blood feeders with remarkable anthropophilic and endophilic behaviour. The presence of dogs at home and higher dog seropositivity in nearby areas are risk factors for VL. Current control strategies target adult stages. The limited knowledge of *L. longipalpis* breeding sites, which are strictly terrestrial, is a hurdle for controlling the preimaginal stages. In addition, *L. longipalpis* composes a species complex, harbouring an uncertain number of cryptic species. Further research may reveal that some of these cryptic species are more efficient vectors of *L. infantum* than others.



## Acknowledgements

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## Resources

<http://www.cvbd.org/en/sand-fly-borne-diseases/about-sand-flies/sand-fly-feeding/host-seeking-behaviour/>

<https://www.who.int/leishmaniasis/disease/vector/en/>

<https://www.troccap.com/>

<http://www.leishvet.org/>

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