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SURVEY OF PHLEBOTOMINE SANDFLY (DIPTERA: PSYCHODIDAE) FAUNA AND *Leishmania* spp. INFECTION IN THE DESTERRO ENVIRONMENTAL CONSERVATION UNIT, FLORIANÓPOLIS, SANTA CATARINA, BRAZIL

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Abstract

Santa Catarina (SC) was the last state to report autochthonous cases of Visceral Leishmaniasis (VL) in Brazil. The first case of Canine Visceral Leishmaniasis (CVL) was reported in Florianópolis (SC, Brazil) in 2010, and it remains the only municipality in the state with autochthonous cases in dogs and humans. The main vector, *Lutzomyia longipalpis*, has not been detected in SC but has been reported in the neighboring states of Rio Grande do Sul and Paraná. This study aimed to survey the sandfly fauna in the Desterro Environmental Conservation Unit (UCAD) in Florianópolis, and investigate natural *Leishmania* spp. infection in sandflies, and analyze the influence of climatic factors on their monthly distribution. Twelve monthly sandfly collections were carried out using two CDC light traps, one set in the tree canopy and the other at ground level. The presence of *Leishmania* spp. in female sandflies was assessed using conventional PCR, targeting the ITS1 region of rDNA, with DNA sequencing performed to determine the species involved. In total, 458 sandfly specimens were captured, belonging to the following species: *Brumptomyia cunhai*, *Brumptomyia nitzulescui*, *Expapillata firmatoi*, *Migonemyia migonei*, *Nyssomyia neivai*, *Pintomyia fischeri*, *Psathyromyia lanei*, *Psathyromyia limai*, *Psathyromyia pascalei* and *Psychodopygus ayrozai*. This study identified the first record of the species *Psathyromyia limai* in Southern Brazil. Among the 347 females analyzed for natural *Leishmania* spp. infection, two tested positive by PCR. However, DNA sequencing results were inconclusive regarding the specific trypanosomatid species involved. Analysis of climatic factors showed a positive correlation between sandfly abundance and mean temperature and precipitation, though without statistical significance. These findings contribute to increasing the knowledge of sandfly fauna in SC and reinforce the need for continued surveillance of leishmaniasis vectors.

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