

DETECTION OF *Leishmania* PATHOGENS IN *Phlebotomus argentipes* COLLECTED FROM KEKANADURA IN MATARA DISTRICT AND RAMBUKKANA IN KEGALLE DISTRICT, SRI LANKA

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Cutaneous leishmaniasis is an endemic and increasingly reported vector-borne disease in Sri Lanka, caused mainly by the protozoan parasite *Leishmania donovani*. The disease is transmitted through the bite of infected female sandflies. This study aimed to detect the presence of *Leishmania* pathogen DNA in sandfly vectors collected from two regions in Sri Lanka with different risk classifications: Kekanadura in Matara District, a high-risk area, and Rambukkana in Kegalle District, a low-risk area. Sandflies were collected using CDC light traps from 6:00 p.m. to 6:00 a.m., monthly from January to April 2025. Collected sandflies were confirmed as *Phlebotomus argentipes* using standard taxonomic keys. A total of 168 sandflies were screened for the pathogen, 56 from Matara and 112 from Rambukkana study sites. Genomic DNA was extracted from full blood-fed female sandflies, and molecular detection was carried out using PCR targeting the internal transcribed spacer (ITS) region, using ITS forward (5'-CTG GAT CAT TTT CCG ATG-3') and L5.8S reverse (5'-TGA TAC CAC TTA TCG CAC TT-3') primers for pooled samples (8 individuals in a pool). The number of cases reported during the study period was taken from the Epidemiology unit, while the abundance of sandflies was reported from the light trap surveys. Altogether 35% and 42% of the sandflies tested PCR positive for *Leishmania* spp. from Rambukkana and Matara, respectively. According to the Epidemiology Unit, Sri Lanka, 39 leishmaniasis cases were reported in Matara and 15 from Kegalle during the study period. The mean monthly abundance of sandflies during the study period was 37.5±15.5 for Rambukkana and 25.0±9.1 for Matara. Despite Rambukkana being classified as a low-risk area, the detection of *Leishmania*-positive sandflies and their abundance suggests the possible emergence of the disease in the area necessitating continuous monitoring.

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