

Seasonal Distribution and Bionomics of Sandflies (Diptera: Psychodidae: Phlebotominae), Vectors for Leishmaniasis, in Jaffna, Sri Lanka

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Abstract: Leishmaniasis is a major public health concern in Sri Lanka. More than 2000 cases of cutaneous leishmaniasis (CL) have been reported from the island since 2000. The most fatal visceral leishmaniasis (VL) is also emerging as a threat in the country. *Leishmania donovani* zymodeme MON 37 is the identified parasite responsible for CL. *Phlebotomus argentipes* sensu lato, a species complex, is suspected to be the vector for CL. A monthly survey was conducted in Delft Island, Pungudutheevu and Chunnakam to assess the seasonal distribution of the sibling species of the Argentipes species complex. A questionnaire based study was performed in Delft Island, where the threat of sandflies is high, to assess the public awareness related to sand fly bite and the disease. All three members of the Argentipes complex were identified. The seasonal distribution varied, as in Delft Island the presence of sandflies was observed throughout the year with peak abundance during the dry season (April-September) while in Pungudutheevu and Chunnakam there were two peaks observed, after monsoon (February-May) and with onset of monsoon (October-November). *Phlebotomus (Euphlebotomus) glaucus*, which is generally considered as a wet zone species, was found abundant during dry season. More than 80% of them have close contacts with potential animal reservoirs like cows, goats, cats and dogs. None of the respondents were aware of leishmaniasis, although 91% of them are aware of the sandfly bites. Only 8.7% of them have reported that sandflies breed on soil. Twenty two percent of the respondents experience sandfly bites all around the year. Neem smoking and mosquito net seem to be the most popular method of insect bite prevention followed by the use of mosquito coils. The respondents spend around 50-300 Sri Lankan rupees per month for preventing from insect bite. The results indicate the need of a public awareness programme related to sandfly bites and the possible transmission of leishmaniasis and its consequences in the region.

Keywords: Leishmaniasis, Sandfly, Disease Prevention, Jaffna