

Environmental characterization of positive domiciliary units for sand flies (Diptera, Psychodidae) in Palmas, Tocantins

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Abstract

The construction of Palmas, the capital of Tocantins (TO), turned large swaths of the Cerrado biome into forest remnants distributed throughout the city, where the presence of sand flies has been recorded. In this scenario, certain species could invade domiciliary units (DUs), suited to this modified environment. The objective was to characterize the DUs with known presence of sand flies in the central area of Palmas (urban) and in Taquaruçu (rural) district, in order to understand the receptivity of them to the occurrence of sand flies. Forty houses next to adjacent gallery forests were selected, 20 in Palmas and 20 in Taquaruçu, after the acceptance of the person in charge of the domicile. For this purpose, a form was used to survey the structure of the houses, the peridomicile and the surroundings to analyze the environmental profile of the houses in 2014. The information on the visceral leishmaniasis (VL) data referred to the occurrence of infected dogs in the DU and on the transmission and control of VL were obtained from surveys applied to households. These features were compiled into a tab-delimited file in Microsoft Excel and a descriptive analysis was performed. In most of the DUs of both locations windows were open at dusk, and screens on the windows were not registered in any of these residences. It was observed that all the surveyed DUs had electric energy and that some residents had one of the lights turned on at night. None of the DUs had a sewage system. Vases with plants and trees were very common in the peri-habitat. Animal feces, trunks, bark and / or rotten wood and cultivation of vegetable gardens were also registered in this environment. The animals that predominated in the peridomicile of these localities were dogs, followed by hens. Based in the survey, half of the DUs in Palmas presented positive dog for Visceral Leishmaniasis (VL). In some DUs of Taquaruçu positive dogs for VL were registered and most of the owners knew the main form of transmission of VL and how this disease can be controlled. Near all DUs of both locations there were vacant lots. During the sand fly survey in 2014 we observed that in Palmas and Taquaruçu most of the captured sand flies came from the peridomicile of only one of the DUs, where the presence of fruit trees, organic matter and animals such as dogs and chickens were observed. These characteristics are important in the maintenance of the phlebotomine population in the peridomicile, thus increasing the risk for leishmaniasis in these localities.

Key words

Environmental characterization; Phlebotomines; Palmas; Tocantins