

## Short Report

**Active transmission of *Leishmania braziliensis braziliensis* in the Serra de Mar forest, São Paulo, Brazil**

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There is strong epidemiological evidence (FORATTINI *et al.*, 1976) suggesting that in the Ribeira river valley, São Paulo, cutaneous leishmaniasis is transmitted to man in and around dwellings. GOMES *et al.* (1983) have shown that the suspected vector, *Psychodopygus intermedius*, is taken in greater number off man in and around houses than in the surrounding forest. Further epidemiological studies were undertaken in the Serra de Mar forest, on the borders of the municipalities of Miracatu and Pedro Toledo, to try to determine the transmission season in the local forest and peridomestically. Transmission was monitored by continuously exposing sentinel hamsters during the different seasons between 1982 and 1984. Hamsters were placed in 10×40×50 cm wire cages suspended approximately 50 cm above the ground and covered to protect against rain. 8 hamsters were exposed in the peridomestic area and 5 in the neighbouring forest. Between spring 1982 and winter 1984 hamsters were exposed for a total of 699 d in the peridomestic habitat and for 342 d in the forest.

A single animal that had been a sentinel in the forest during part of the 1982 winter, between 27 July and 21 September, developed a small lesion on its right front paw 5 months after being returned to the laboratory. Amastigotes were seen in Giemsa-stained smears and positive cultures were obtained from the lesion and from the liver and spleen. The strain (MMES/BR/82/HM1B) was identified with subspecies-specific leishmanial monoclonal antibodies (MCMAHON-PRATT *et al.*, 1982) as belonging to serodeme 1 (SHAW *et al.*, 1986) of *Leishmania braziliensis braziliensis*. Two other strains, isolated before the present study from a man (MHOM/BR/81/1HVR) and a dog (MCAN/BR/81/1CVR), also belonged to the same serodeme. The site at which the sentinel hamster became infected was a tongue of low forest continuous with the rest of the Serra de Mar forest, and the nearest house was about 1 km away.

The absence of human cases in 1982 indicates that an active enzootic cycle does not necessarily lead to human disease. The reasons for this are unclear. It could be due to such factors as low infection rate in silvatic flies associated with a low fly/man contact in the forest, or the failure of the infection to be

transferred from the forest to the peridomestic environment.

None of the sentinel hamsters in peridomestic habitats became infected between spring 1982 and winter 1984, again suggesting that in this period peridomestic transmission did not occur. Peridomestic sandfly populations must become infected if transmission is to occur in this environment and the source of infection could be a wild animal or a dog that had become infected in the nearby forest. In such a situation the dog would serve as an amplifying host, but it is questionable if it can serve as a maintenance reservoir. The disappearance of peridomestic transmission in 1982 in the present study area indicates that, in this particular region, the dog does not serve as a reservoir. Workers in Rio de Janeiro State (COUTINHO *et al.*, 1985) considered that the dog played an important role in the domestic transmission cycle of cutaneous leishmaniasis in that area.

The present observations show conclusively that there is an enzootic *L. b. braziliensis* cycle in the Serra de Mar forest, adding further weight to the idea that the primary reservoir of this particular parasite in southern Brazil is a wild mammal. Although dogs have been found infected in this region it still remains to be seen what role they play as reservoirs in any peridomestic cycle.

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