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Introduction: Although found naturally infected with Leishmania chagasi, the crab-eating fox Cetocyon thous has not been described yet in contact with Lutzomyia longipalpis, the sand fly vector of L. chagasi. The presence of antibodies anti-Lu. longipalpis saliva would indicate a natural contact among foxes and Lu. longipalpis. Objective: To evaluate the presence of antibodies anti-saliva of Lu. longipalpis in wild foxes from an endemic area of visceral leishmaniasis. Material and methods: Sera of nine foxes and of six dogs living in the same area in the environs of Teresina, a highly endemic city for visceral leishmaniasis, was tested for the presence of antibodies against the whole saliva gland of Lu. longipalpis and Lu. whitmani by using an immunoenzymatic assay (ELISA) and conjugates with protein A. Antibodies anti-Lu. chagasi were tested by ELISA and by and indirect immunofluorescence test (IFAT). Negative controls were recently born dogs from Salvador-BA, an area where transmission of L. chagasi does not occur. Results: All dogs and 8/9 foxes had higher absorbance for anti-Lu. longipalpis antibodies and none had any evidence for anti-Lu. whitmani saliva antibodies. No animal foxes had anti-Lu. chagasi antibodies but the only one sick fox had amastigotes in the bone marrow. Conclusions: The present description for the first time establish a link between the fox C. thous and the vector of L. chagasi, the sand fly Lu. longipalpis. The force of contact was similar to dogs which lives in close contact with domiciliary vectors. The absence of reaction against the saliva of the locally found Lu. whitmani indicates the species-specific reaction. This finding together with the description of Lu. longipalpis from fox dens suggests that the contact may occur inside the animal caves. The presence of one infected fox suggests that a natural foci of transmission of L. chagasi may exist inside foxes dens.

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