1 Background
Leishmaniasis are diseases caused by flagellate protozoa of the genus *Leishmania* and presents great diversity in clinical manifestations. Canine visceral leishmaniasis (CVL) is caused by *Leishmania infantum* in Brazil and it is characterized as severe and chronic infectious zoonotic disease. Dogs have been considered the main reservoir, however, the role of the cat in the transmission cycle has been discussed. This work aimed to evaluate the presence of infected cats and sand flies in an enzootic area for CVL, and the ability of felines to infect their biological vector, *Lutzomyia longipalpis*.

2 Methods
Nine cats residents in São Joaquim de Bicas, Minas Gerais, were studied.

3 Results
The parasitological evaluation demonstrated the presence of amastigote forms in 5/9 (56%) of the bone marrow samples by cytological examination. Besides, qPCR increased sensitivity by identifying one more cat infected with *L. infantum* (66%). However, none of the samples were positive in culture with NNN medium. Eight animals were submitted to xenodiagnosis and no infection of any *L. longipalpis* that realized the bloodmeal in these animals was detected. Animals were tested for infection by Feline Immunodeficiency virus (FIV), and Feline Leukemia virus (FeLV) and one animal was positive for FeLV being also infected by *L. infantum*.

4 Conclusions
This work is pioneer in performing xenodiagnosis in cats resident in an endemic area, as well in evaluating aspects of the transmission in the environment in which these animals are inserted. Further studies to identify the real role of cats in VL epidemiology in Brazil are required.