

In Kenya, *Leishmania major* is responsible for human cutaneous leishmaniasis (CL). Natural infection with *L. major* of a vervet monkey and experimental susceptibility of some nonhuman primates (NHPs) from Kenya has been established. However, there has been no comprehensive study of the prevalence of zoonotic CL in Kenya. And also, no investigation has been done to assess whether NHPs could be potential reservoir hosts of *L. major* even when the involvement of reservoir animals is obligatory in transmission of this parasite. To achieve this, wild caught *Chlorocebus aethiops* (Vervet monkeys n=213), *Papio cynocephalus anubis* (olive baboons n=101) and *Cercopithecus mitis* (Syke's monkeys n=64) from five geographical locations in Kenya were screened for antibodies against *L. major* using enzyme linked immunosorbent assay (ELISA) and Western blot (WB) analysis. From the population of *C. aethiops* (n=213) captured, 57 were used in lymphocyte proliferation assay. ELISA revealed a high prevalence of leishmaniasis sero conversion in olive baboons 78/101 (77.2%), vervet monkeys 129/213 (60.6%) and Sykes' monkeys 43/64 (67.2%). WB detected anti-*L. major* antibodies in 48.5% (49/101) of the baboons, 48% (102/213) of vervet monkeys and 37.5% (24/64) of Sykes' monkey sera. Specific proliferation of peripheral blood mononuclear cells to *L. major* antigen was demonstrated in 17 of the 57 (29.8%) vervet monkeys. In conclusion, the results of serological assays provide strong circumstantial evidence that CL is prevalent in five Provinces of Kenya and that Kenyan NHPs could be a potential reservoir hosts of *L. major*.