In investigations on an outbreak of kala-azar [caused by Leishmania donovani] in Machakos District, Kenya, in 1972-77, the homesteads of patients found suffering with the disease were mapped out for epidemiological studies. Clustering of cases to form real microfoci was not observed at first, but pseudo-microfoci were later observed in the affected locations along the Athi River Valley basin. The outbreak area was similar to the already known endemic areas of visceral leishmaniasis, and affected homesteads were in close proximity to river valleys, dams and water sources. There was a general abundance of hills of the termite Macrotermes bellicosus (Smeath.), which are known to be resting and breeding sites of the suspected vector [Phlebotomus martini Parr., see next abstract]. It is suggested that the dog or some other animal may act as a reservoir for the disease in the area.ADDITIONAL ABSTRACT:The origins of patients with visceral leishmaniasis admitted in Kenya to the Kenyatta National Hospital, Nairobi, and to Machakos General Hospital between 1972 and 1977, are indicated on maps. All were from altitudes below 4,000 ft. The infected areas were near river valleys, dams, and water sources, and were associated with termite hills of Macrotermes bellicosus, the resting and breeding sites of the suspected vectors of the disease. The number of cases increased rapidly from about 5 in 1972 to 130 in 1977. Dogs are probably a reservoir of infection.