Numbers of ticks on four herds of dromedaries, two on commercial ranches (135 and 175 animals), one maintained for research projects (21 animals) and one owned by nomadic farmers (174 animals), were counted between January 1980 and February 1981. The ranched herds had fewer ticks than the other two herds with maximum mean number of ticks per dromedary, 8 in one herd and 62 in the other compared with 106 in the nomadic herd and 121 in the research herd. Adult dromedaries usually carried more ticks than calves, but there was no difference in tick burdens between sexes. Of the 13 species identified the most common were Hyalomma rufipes, Hyalomma dromedarii, Rhipicephalus pulchellus, Amblyomma gemma and R. evertsi. Small numbers of Boophilus decoloratus were also found in one herd. In the first part of 1980 R. pulchellus and A. gemma were most abundant, while later in the year numbers of H. dromedarii and H. rufipes increased while A. gemma decreased. R. pulchellus numbers remained fairly high throughout, reaching peak numbers in April and October when the overall tick numbers were high. Ticks were found most frequently in the perineal and inguinal areas. ADDITIONAL ABSTRACT: The tick loads and tick species (of which there were 13) infesting an experimental herd, a Rendille pastoralists' herd and 2 ranch herds of camels in 4 areas of Kenya are described. Hyalomma marginatum rufipes Koch (H. rufipes), H. dromedarii Koch and Rhipicephalus pulchellus (Gerst.) were the commonest ticks.