

**Abstract:**

Five strains of entomogenous nematodes, *Steinernema carpocapsæ* strains DD, Mexican, SR, and *Heterorhabditis bacteriophora* strains 1S5 and HP88, were tested for their pathogenicity to various developmental stages of five African tick species namely; *Rhipicephalus appendiculatus*, *R. evertsi*, *Amblyomma variegatum*, *A. gemma*, and *Boophilus decoloratus*. In engorged female *R. appendiculatus*, all nematodes at a concentration of 1,000 infective juveniles (IJ)/dish, except *S. carpocapsæ* Mexican strain, induced high mortalities (56-100%), whereas in engorged female *R. evertsi*, only *S. carpocapsæ* DD and *H. bacteriophora* HP88 induced high mortalities (78% and 56%, respectively). In engorged *B. decoloratus*, *S. carpocapsæ* DD, Mexican, SR and *H. bacteriophora* HP88 (100 IJ/dish) induced mortalities of 85%, 65%, 80%, and 100%, respectively. In all cases, except for *S. carpocapsæ* Mexican strain, a higher concentration (5,000 IJ/dish) did not result in higher mortality than occurred with 1,000 IJ/dish. Unfed females and immature stages of ticks were found to be generally resistant to the nematodes. The feasibility of using entomogenous nematodes for biological control of African tick species are briefly discussed.