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We monitored abundance, population dynamics and damage impacts of the leucaena psyllid *Heteropsylla cubana* Crawford (Homoptera: Psyllidae) in a maize-leucaena agroforestry system. The abundance of local ladybird beetle predator populations were also evaluated. The studies were conducted between June 1993 and November 1995 at Mtwapa and Amoyo in coastal and western Kenya respectively. Alley-cropping leucaena with maize had no effect on the abundance of the leucaena psyllid or its coccinellid predators. Therefore, neither the 'resource concentration' hypothesis nor the 'enemies' hypothesis corroborated for the psyllid-leucaena system within the spatial scale of this study. Psyllid populations were generally much higher at Mtwapa than at Amoyo, suggesting possible environmental effects on population growth. Psyllid populations were influenced by weather (mainly rainfall) and availability of suitable shoots. New growth of young shoots following rainfall encouraged psyllid abundance as long as weather conditions were not extreme. Though population of the generalist ladybird beetles was correlated with that of its psyllid prey, beetles did not appear to have significant effect on prey populations.