Abstract

Introduction: Anopheles darlingi is the main malaria vector in the neotropics. This species is recognized by its anthropophilic behavior and its high variability in biting activity throughout its distribution range. Objective: To characterize the biting behavior of An. darlingi and to establish its association with malaria transmission in Villavicencio. Materials and methods: Between 2008 and 2009, a cross sectional and a longitudinal entomological study were carried out in 5 localities with malaria transmission in Villavicencio. Mosquito collections included breeding sites search and human landing catches in houses. Collected mosquitoes were analyzed for Plasmodium using the ELISA standard protocol. Results: A total of 2,772 mosquitoes were collected in the study. Anopheles darlingi was the most abundant anopheline species. The most common breeding sites for this species were marshes, streams, lakes and fish ponds. Anopheles darlingi was found at all times during the year with monthly average human biting rates between 2.2 and 55.5 mosquitoes/person/night. This species was collected throughout the night, indoors and outdoors, and 47 to 81% of An. darling captured during twelve hours of observation (18:00 to 06:00) were collected between 18:00 and 22:00. Anopheles darlingi was found positive for P. falciparum with a 0.05% rate and the entomological inoculation rate was estimated at 2.9 infective bites/person per year. Conclusion: Anopheles darlingi was infected with P. falciparum, it was found all year long and it exhibited characteristics in biting behavior that favor human-vector contact, being a permanent risk for malaria transmission in Villavicencio.

Keywords

Anopheles, behavior, animal, insect vectors, Plasmodium, malaria, Colombia.