Abstract

Introduction: Putumayo is considered an endemic region for malaria transmission, mainly due to Plasmodium vivax. The vectors in this region are Anopheles darlingi, which has been found only in the municipality of Puerto Leguízamo, and An. rangeli and An. oswaldoi s.l., which were recently incriminated as vectors in Puerto Asís. Objective: The purpose of this study was to determine the role of An. benarrochi B in malaria transmission in Putumayo, given that it is the most abundant species biting humans. Materials and methods: Collections of immature and adult stages of Anopheles spp. were made between 2006 and 2008 in the municipalities of Puerto Leguízamo and Puerto Asís in Putumayo, and sequences of internal transcribed spacer 2 (ITS-2) of ribosomal DNA and the mitochondrial gene COI were obtained to confirm the morphological determinations. ELISA was carried out for P. vivax and P. falciparum infectivity. Results: A total of 6,238 specimens were identified, distributed in 11 species: An. albítaris s.l. (1.83%), An. benarrochi B (72.35%), An. braziliensis (0.05%), An. costai (0.06%), An. darlingi (19.37%), An. mattogrossensis (0.08%), An. neomaculipalpus (0.13%), An. oswaldoi s.l. (0.64%), An. punctimacula (0.03%), An. rangeli (5.12%), and An. triannulatus s.l. (0.34%). A total of 5,038 adults were assessed by ELISA and 5 were found positive for P. vivax 210 and VK 247, all belonging to An. benarrochi B. Conclusion: The results suggest that An. benarrochi B plays a role in the transmission of P. vivax in Putumayo due to its high human contact and natural infection with Plasmodium sp.

Keywords

Malaria, insect vectors, Anopheles, Colombia.