

# The importance of *Anopheles darlingi* root, 1926 and *Anopheles marajoara* Galvão and Damasceno, 1942 in the transmission of malaria in the Municipality of Macapá, Amapá State, Brazil\*

A importância do *Anopheles darlingi* root, 1926 e *Anopheles marajoara* Galvão e Damasceno, 1942 na transmissão de malária no Município de Macapá, Estado do Amapá, Brasil

La importancia del *Anopheles darlingi* root, 1926 y el *Anopheles marajoara* Galvão e Damasceno, 1942 en la transmisión de malaria en el Municipio de Macapá, Estado de Amapá, Brasil

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**Introduction:** In the Municipality of Macapá, Amapá State, Brazil, malaria cases occur mainly in peri-urban areas, which are characterized by *ressacas*, forest fragments and disorderly settlements (land invasions). **Objective:** This study aimed to assess the importance of *Anopheles darlingi* and *An. Marajoara* in the malaria transmission cycle in Macapá. The study was performed in the Lagoa dos Índios community from October 2007 to September 2008. **Results:** Over a period of 360 h, 4,601 mosquitoes were trapped; these mosquitoes included 3,029 specimens of *Anopheles marajoara* (65.8%), 917 *An. darlingi* (19.9%), 429 *An. braziliensis* (9.3%), 203 *An. Triannulatus* (4.5%), 18 *An. peryassui* (0.4%), and five *An. nuneztovari* (0.1%). Of the specimens analyzed, 1,511 (32.8%) were collected inside homes (intradomicile), and 3,090 (67.2%) were collected in the areas immediately surrounding homes (peridomicile). The human/h biting rate for *An. darlingi* ranged from 0 to 6.5 in intra-domicile and from 0 to 22 in peri-domicile areas; for *An. marajoara* the rate ranged from 0 to 22 in intra-domicile and from 0 to 175.5 in peri-domicile areas. The analysis of 200 larva and pupa exuviae and the dissection of 100 male genitalia were used to confirm the species identifications, which showed that *An. marajoara* is the only species of the albitarsis complex that circulates in the area. The number of vectors varied according to the seasonal pattern of local rainfall. *An. darlingi* was the most abundant species in the beginning and end of the rainy season (50.5%), whereas *An. marajoara* was detected at high density throughout the rainy period (92%). Of the 4,601 mosquitoes tested by ELISA, 100 were positive for human plasmodia; of these, 71 (2.34%) were *An. marajoara*, 28 (3.05%) were *An. darlingi*, and one was *An. braziliensis* (2.17%). **Conclusion:** This study showed that both species studied maintain their malaria transmission rates throughout the year, which confirms their importance as vectors of this disease.

**Keywords:** *Anopheles*; Insect Vectors; Malaria; Seasonal Variations; Longitudinal Studies; ELISA.

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