

Monitoring of Vector Mosquitoes of Diseases in Areas of Energy Employment Influence in the Amazon (Amapá State), Brazil

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Abstract : Objective: The objective of this study was to evaluate the influence of a hydroelectric power plant in the state of Amapá, and to present the results obtained by dimensioning the diversity of the main mosquito vectors involved in the transmission of pathogens that cause diseases such as malaria, dengue and leishmaniasis. Methodology: The present study was conducted on the banks of the Araguari River, in the municipalities of Porto Grande and Ferreira Gomes in the southern region of Amapá State. Nine monitoring campaigns were conducted, the first in April 2014 and the last in March 2016. The selection of the catch sites was done in order to prioritize areas with possible occurrence of the species considered of greater importance for public health and areas of contact between the wild environment and humans. Sampling efforts aimed to identify the local vector fauna and to relate it to the transmission of diseases. In this way, three phases of collection were established, covering the schedules of greater hematophageal activity. Sampling was carried out using Shannon Shack and CDC types of light traps and by means of specimen collection with the hold method. This procedure was carried out during the morning (between 08:00 and 11:00), afternoon-twilight (between 15:30 and 18:30) and night (between 18:30 and 22:00). In the specific methodology of capture with the use of the CDC equipment, the delimited times were from 18:00 until 06:00 the following day. Results: A total of 32 species of mosquitoes was identified, and a total of 2,962 specimens was taxonomically subdivided into three genera (Culicidae, Psychodidae and Simuliidae) Psorophora, Sabethes, Simulium, Uranotaenia and Wyeomyia), besides those represented by the family Psychodidae that due to the morphological complexities, allows the safe identification (without the method of diaphanization and assembly of slides for microscopy), only at the taxonomic level of subfamily (Phlebotominae). Conclusion: The nine monitoring campaigns carried out provided the basis for the design of the possible epidemiological structure in the areas of influence of the Cachoeira Caldeirão HPP, in order to point out among the points established for sampling, which would represent greater possibilities, according to the group of identified mosquitoes, of disease acquisition. However, what should be mainly considered, are the future events arising from reservoir filling. This argument is based on the fact that the reproductive success of Culicidae is intrinsically related to the aquatic environment for the development of its larvae until adulthood. From the moment that the water mirror is expanded in new environments for the formation of the reservoir, a modification in the process of development and hatching of the eggs deposited in the substrate can occur, causing a sudden explosion in the abundance of some genera, in special Anopheles, which holds preferences for denser forest environments, close to the water portions.

Keywords : Amazon, hydroelectric, power, plants

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