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Registration of the ocurrence of *Aedes albopictus* in an urban zone in Manaus, Amazonas, Brazil

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ABSTRACT

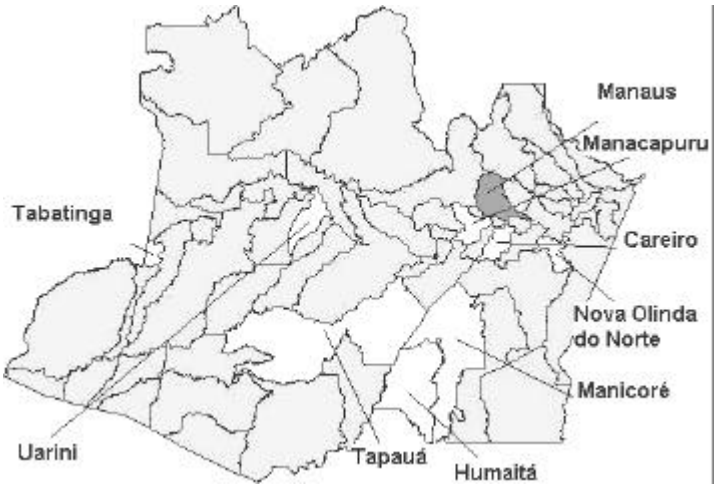
Information is available regarding the presence of *Aedes albopictus* in several municipalities of the State of Amazonas. Specimens of this mosquito species have now, for the first time, been collected from an urban area of the municipality of Manaus, Amazonas, Brazil.

Keywords

Aedes. Dengue. Geographic distribution. *Aedes albopictus.*

Originating from Asia, where is it is an important vector for arboviruses, *Aedes (Stegomyia) albopictus* (Skuse, 1894) became increasingly dispersed to other parts of the world from 1980 onwards.[2] It was found in the Americas for the first time in 1985 and in Brazil in May 1986.[1] This species has become disseminated throughout Brazil, and has been found in various Brazilian states.[2]

In the State of Amazonas, it was found for the first time in June 1996, specifically in the immediate vicinity of Tabatinga (Figure), according to information from the Fundação Nacional de Saúde - FUNASA (National Health Foundation)and the Secretaria de Estado de Saúde do Amazonas - SUSAM (Amazonas State Health Department). It was temporarily eliminated from that locality. Since then, an entomological surveillance service for this species has been implemented, with the use of larval traps installed in different locations within the city of Letícia, on the frontier between Brazil and Colombia.[5] Nonetheless, in 1997 this species was again found both in Tabatinga and in the District of Letícia.[5]



Source: National Health Foundation (Fundação Nacional de Saúde - FUNASA)/ Amazonas State Health Department (Secretaria de Estado de Saúde do Amazonas - SUSAM)

Figure – Distribution of *Aedes albopictus* in the State of Amazonas

Today, the dispersion of *Ae. albopictus* is affecting nine municipalities (Figure), including Manaus, where its occurrence has now for the first time been recorded. This comes from the information that an adult of *Ae. albopictus* was caught on August 5, 2002, outside the Fundação de Medicina Tropical do Amazonas (Foundation of Tropical Medicine of Amazonas), by an employee.

On August 15, 2002, a search was undertaken for adults and immature forms around that area. Two specimens were caught while feeding on blood from one of the collectors. From this material, egg-laying was achieved. With the emergence of larvae, a second generation was obtained. Since no natural occurrence of immature forms was found during that search, receptacles were set out on September 3, 2002, to serve as larval traps in the area where the adults had been collected. From this, it was possible to record egg-laying and the emergence of larvae, pupation and the adult form.

Although this species has not yet been implicated as a vector for arboviruses in Brazil, it could become a bridge between the forest and urban cycles of yellow fever or other arboviruses, because of its capacity for adaptation to different environments.[2] According to the few studies made in relation to its progressive dispersion, *Ae. albopictus* has demonstrated a high capability for utilizing artificial breeding areas within Brazilian territory, without abandoning natural ecotopes.[2] Its epidemiological importance in the transmission of the dengue virus is recognized in rural and urban areas in Asia, as well as its participation in the transmission of Asian encephalitis.[4]

Even though it is not yet clear what effect the presence of *Ae. albopictus* may have on the dynamics of the transmission of the dengue virus in the Americas, its interaction with *Aedes aegypti* needs attention, since both are species that essentially develop within the same artificial breeding areas of rural, urban and peripherally urban environments.[3] Their competence as vectors for transmitting diseases like dengue, yellow fever and Venezuelan equine encephalitis have been proven under laboratory conditions.[3] The risk of urban epidemics increases with increased mosquito population density and wider distribution. This is especially so in relation to the urban areas bordering rural areas where sporadic cases of forest yellow fever are already occurring. The movement of people infected with the yellow fever virus from rural to urban areas further increases this risk.[3] Thus, there is a need for vigilant monitoring of how the presence of *Ae. albopictus* evolves under the new conditions that it is subjected to in the neotropical region, and how it coexists with *Aedes aegypti*.

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