

Letter

Aedes aegypti (Diptera: Culicidae) in a tree hole in Brazil

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Dear Editor,

Aedes aegypti aegypti, commonly abbreviated as *Ae. aegypti*, can be differentiated from *Ae. aegypti formosus*, a purely sylvatic species in sub-Saharan Africa, whose immature forms mostly inhabit holes in stones and trees, and have also been collected in bamboo traps⁽¹⁾. *Aedes aegypti* eggs show good adaptation ability to other vessels and strong resistance to desiccation, which has facilitated its transportation to several regions worldwide by humans⁽²⁾. It invaded the American continent through trading and slaving ships, subsequently adapting to a large area and transmitting yellow fever virus in cities across the continent, ranging from Baltimore in the United States to Buenos Aires in Argentina⁽³⁾, and has since been incriminated in the transmission of several arboviruses⁽⁴⁾. It has also been reported to rarely invade sylvatic environments in Rio de Janeiro⁽⁵⁾, as well as in rock holes in Anguilla and in tree holes in New Orleans⁽⁶⁾, and was found in tree holes in the Caribbean among 12 types of habitats⁽⁷⁾. Furthermore, *Ae. aegypti* was found in 12 of 30 tree holes containing water, with one found only 300m from an urban area in Salta, Argentina⁽⁸⁾.

Between January and May 2016, three larvae of *Ae. aegypti* were obtained from a hole in a *Tipuana* tree on three different occasions. The tree is located in a partially preserved area of an aquatic club in an urban area in the City of Ijuí, in the State of Rio Grande do Sul, Brazil. The cavity could hold 2L of water with a 20-cm diameter external aperture, and was situated at a height of 1.5m. The 5-ha park is contiguous to houses on the Eastern and Southern sides and to farms in the other directions; the vegetation is constituted by scattered trees, without understory, and frequenters of the club regularly walk among the trees.

This occurrence of *Ae. aegypti*, the first to be reported in Brazil besides one report of *Ae. aegypti* being predated by a tipulid in a tree hole⁽⁹⁾, is most likely attributed to the plasticity of the mosquito. This finding raises concern owing to the potential for interactions with other sylvatic mosquitoes, mostly of the genus *Haemagogus*, which are sylvatic vectors of yellow

fever in Brazil⁽¹⁰⁾. Such interspecies interactions could facilitate the transmission of arboviruses, and may cause difficulty in vector control due to a reservoir of immature forms that are out of reach of insecticides and destruction of breeding sites. The recent findings of positive serology for dengue in patas monkeys (*Erythrocebus patas*) and rhesus macaques (*Macaca mulatta*) in Puerto Rico⁽¹¹⁾ and of marmosets (*Callithrix jacchus*) and capuchin-monkeys (*Sapajus libidinosus*) infected by Zika virus in the State of Ceara⁽¹²⁾ emphasize the need for thorough surveys in natural habitats in the region of Ijuí and others throughout Brazil.

Conflict of Interests

The authors declare that there are no conflicts of interest.

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