Monitoring *Aedes* vectors using different capture methods in a heterogeneous landscape of the Brazilian atlantic rainforest

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Dengue epidemics are a historical public health problem in Brazil. The recent introduction and expansion of chikungunya and zika virus in this country reinforces the opportunities to strengthen entomological surveillance actions. The objective of this study was to analyze the spatial distribution of *Aedes aegypti* (L.) and *Ae. albopictus* (Skuse) using different traps and backpack aspirator in an urban-sylvatic gradient in two contrasting cities, Itaboraí and Cachoeiras de Macacu, located in the Atlantic forest in Rio de Janeiro. One-hundred and five collection points were randomly assigned in eight different areas with contrasting landscapes: urban (2), periurban (2), rural (2) and sylvatic (2). In each collection point, different collection methods were employed (CDC, BG-Sentinel, Adultrap and backpack aspirator). Univariate generalized linear models of the Poisson family were used to verify the relationship between *Ae. aegypti* and *Ae. albopictus* abundance, landscape and capture methods. A total of 466 adult mosquitos were collected, of which 49,8% were *Ae. aegypti* and 50,2% were *Ae. albopictus*. Even though *Ae. aegypti* was most abundant in the urban and periurban areas, we found no significant relationship between its abundance and landscape. The use of BG-Sentinels and backpack aspiration were only marginally significant for *Ae. aegypti* captures. *Aedes albopictus* was significantly more abundant in the periurban and rural areas. BG-Sentinel was the best collection method for this species according to the models. Our results show the need to use integrated surveillance methods to monitor *Aedes* vector populations, which are thoroughly dispersed and coexisting in urban to forest gradients in Rio de Janeiro. The finding of large numbers of both species in the periurban areas might indicate that population dynamics of *Ae. aegypti* and *Ae. albopictus* are still being shaped by ecological interactions in these areas.

Palavras-chaves: *Aedes* vectors; entomological surveillance; Atlantic forest.

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