Aedes aegypti multiple choice oviposition behavior: aggregation of adult females and eggs

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Aedes aegypti gravid females are known vectors of potentially dangerous viruses including zika, dengue virus, chikungunya, and yellow fever. *Ae. aegypti* is a highly prevalent mosquito which has been domesticated, inhabiting urban areas, making it of significant medical importance and an imminent threat to global communities. Due to this implication, understanding the intricacies of the *Ae.aegypti* life cycle and behavior, specifically oviposition behavior in gravid females, can be beneficial in formulating strategies to manage *Ae. aegypti* populations. The present study focuses on examining oviposition behavior in gravid females by analyzing breeding-site seeking behavior in conjunction with different patterns of oviposition in both the laboratory and the field. Results to date have demonstrated the preferential bias to a specific breeding-site exhibited by *Ae. aegypti* gravid females when exposed to two possible identical breeding-sites inside cages.
To further understand this phenomenon, gravid females were studied via a four-choice traps assay, with females having four possible identical breeding-sites inside cages.
This assay indicated a high correlation between *Ae. aegypti* female aggregation when the females were trapped in a particular site, and the percentage of eggs laid in each breeding-site.
Understanding this specific behavior will allow for an effective strategy to be devised in order to create gravid females clumping traps in an effort to diminish the spread of these potentially threatening arboviruses.