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Title: Contributions of citizen scientists to arthropod vector data in the age of digital epidemiology

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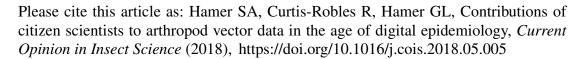
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ACCEPTED MANUSCRIPT

Contributions of citizen scientists to arthropod vector data in the age of digital epidemiology Sarah A. Hamer^{a*}, Rachel Curtis-Robles^a, Gabriel L. Hamer^b

Graphical abstract









Interactive website featuring citizen-collected data

Audience-specific pamphlets

Highlights

- Citizen scientists expand the geographic coverage of vector research initiatives.
- Cyber infrastructure allows widespread participation, transforming vector research.
- Citizen contributions integrate with public health campaigns to improve health.

Abstract

Citizen-collected arthropod vectors are useful for epidemiological studies of vector-borne disease, especially since the vectors encountered by the public are the subset of vectors in nature that have a disproportionate impact on health. Programs integrating educational efforts with collecting efforts may be particularly effective for public health initiatives, resulting in an empowered public with knowledge of vector-borne disease prevention. Citizen science programs have been successfully implemented for the collection of unprecedented sample sets of mosquitos, ticks, and triatomines. Cyber infrastructure employed in digital epidemiology—including websites, email, mobile phone apps, and social media platforms—has facilitated vector citizen science initiatives to assess disease risk over vast spatial and temporal scales, advancing research to mitigate vector-borne disease risk.

Introduction

Diseases in human and animal populations have a long history of standardized reporting (i.e. government-required notification of reportable or notifiable diseases), which generates datasets

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