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Short Report

Presence of *Lutzomyia evansi*, a vector of American visceral leishmaniasis, in an urban area of the Colombian Caribbean coast

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Introduction

American visceral leishmaniasis (AVL) is a potentially fatal disease of neotropical countries, chiefly affecting children aged under 5 years, caused by *Leishmania* (*Leishmania*) *chagasi* Cunha & Chagas, which is indistinguishable from the 'Old World' parasite *Le.* (*Le.*) *infantum* Nicolle, of which it may be a synonym. AVL is transmitted to human or other mammalian hosts by the bites of the phlebotomine sandflies *Lutzomyia* (*Lutzomyia*) *longipalpis* (Lutz & Neiva) or *Lutzomyia* (*Lutzomyia*) *evansi* (Nuñez-Tovar) (GRIMALDI *et al.*, 1989; TRAVI *et al.*, 1996). Although *Lu. longipalpis* is the most widespread and important vector of AVL, *Lu. evansi* has been confirmed as a primary vector in rural areas of the Caribbean coast of Colombia and in some areas of Venezuela (AGUILAR *et al.*, 1995; MONTOYA, 1996; FELICIANGELI *et al.*, 1999). While conducting entomological studies in the urban area of Sincelejo city (9° 18′ N, 75° 25′ W) in northern Colombia, we found adults of *Lu. evansi* in houses and in peridomiciliary environments. This is the first record of *Lu. evansi* from an urban area in Colombia.

Methods

Sandflies were collected between 18:00 and 21:00 with Shannon traps and CDC light traps in houses and outdoors within 8 m of houses. An active daytime search of outdoor resting sites and house walls was also made. Of 270 sandflies collected, 226 (83·7%) were *Lu. evansi*; other species were *Lu.* (*Psychodopygus*) *panamensis* (Shannon), 8%; *Lu.* (*Lu.*) *gomezi* (Nitzulescu), 6·6% and *Lu.* (*Micropygomyia*) *cayennensis cayennensis* (Floch & Abonnenc), 1·7%. Most *Lu. evansi* were observed either resting on house walls or biting humans, indicating an intradomiciliary habit and human–vector contact in this urban area of the city.

Discussion

The presence of *Lu. evansi* in dwellings may indicate incipient urban transmission of AVL in the city of Sincelejo, since VÉLEZ *et al.* (1995), in a rural focus of AVL in northern Colombia (San Andrés de Sotavento), found that the greatest risk of transmission was in areas where *Lu. evansi* entered houses, indicating that AVL was associated with intradomiciliary activity of *Lu. evansi*. Although *Lu. evansi* was earlier found in rural locations of the Colombian Caribbean coast (LE PAPE, 1991), it is not clear how or why this species has now become so widely dispersed. Investigations 7 and 10 years before the present study (I. D. Vélez, unpublished observations, 1990; MONTOYA, 1996) failed to reveal *Lu. evansi* in Sincelejo and we therefore hypothesize that, among other factors, its presence there now may be due to recent invasion of the periurban area, in association with humans and domestic animals, rather than to the survival of an indigenous population. However, it is possible that a pre-existing low-level undetected population of *Lu. evansi* could have survived the earlier antimalarial insecticide house-spray control campaign and then proliferated.

Although once associated only with rural areas, the AVL vectors (*Lu. longipalpis* and *Lu. evansi*) now appear to be associated also with urban and suburban areas of Latin America. Urban AVL has been reported from both Brazil and Venezuela, and the appearance and spread of AVL in the major cities of the region has become an emerging public health problem in recent years (JERONIMO *et al.*, 1994; ARIAS *et al.*, 1996; AGUILAR *et al.*, 1998). At the moment, AVL is unknown in Sincelejo, but the presence there of a known vector suggests a real risk of an urban outbreak. Given the high incidence of AVL on the Colombian Caribbean coast and the concomitant high rate (20 – 26%) of canine infection (LE PAPE, 1991; VÉLEZ *et al.*, 1995), a few infected local rural migrants (or their dogs) could introduce the disease into the city of Sincelejo at any time. City health authorities need to be aware of this risk and to prepare for a future urban outbreak, such as occurred in Bucaramanga (SANDOVAL *et al.*, 1998).

An understanding of the interactions between urban environmental changes and vector phlebotomines in new human-made environments is a prerequisite for the design of appropriate disease prevention and control strategies, in which the role of dogs as potential reservoirs of infection must also be considered, in addition to that of foxes and synanthropic opossums (*Didelphis* spp.) (COSTA *et al.*, 1999).

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Announcement

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- A short report should be submitted within 3 months of completion of the study

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