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Title Page: A suspect case of cat scratch disease leads to isolation of *Bartonella henselae* in domestic cats from Jamaica.

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A suspect case of cat scratch disease leads to isolation of *Bartonella henselae* in domestic cats from Jamaica.

To the Editor:

Bartonella henselae has been isolated from domestic cats in most countries where it has been investigated (1), with the exception of some countries at northern latitudes, such as Norway (2). The prevalence of both bacteremia and seropositivity in cats is usually highest in warm and humid tropical countries. The worldwide distribution of Cat Scratch Disease (CSD), a zoonotic disease caused mainly by the scratch of a *B. henselae* infected cat, follows a similar pattern. Very limited information is available about the presence of CSD in either humans or the feline reservoir in the Caribbean region.

As early as 1955, 3 febrile children admitted to a hospital in Havana, Cuba, were diagnosed with CSD based both on their symptoms and the positive results of intradermal tests using the Foshay antigen (3). The bacteriological examination however, was negative. All three siblings had a previous contact with a female cat and its four kittens. In 2003, Lam et al. (4) reported the case of a 13 year-old Cuban boy who was treated for symptoms compatible with a diagnosis of Cat Scratch Disease. However, no other information could be found in the scientific literature regarding the isolation of this bacterium from domestic cats in the Caribbean or seropositivity for *B. henselae* in either humans or animals living in that region.

In the summer of 2003, an employee at a veterinary clinic in Kingston, Jamaica, was scratched and bitten on the hand by a cat. The employee later became febrile with an

enlarged axillary lymph node and CSD was suspected. In an effort to confirm the clinical suspicion, and with the employee's permission, a serum sample was taken 7 weeks after the incident. Whole blood from 62 of the remaining cats present in the cattery was also collected into EDTA tubes and stored at 4°C before being shipped to California for testing. Unfortunately, the cat involved in the incident was not available for testing. Age was available for 63% of the cats and ranged from 1 month to > 5 years. Forty percent of the cats were formerly owned and put up for adoption, 16% were strays and the origin of 44% was not recorded.

Upon reception at the laboratory, all cat blood samples were frozen at – 70°C. They were subsequently thawed, and an aliquot plated onto 5% rabbit blood-enriched agar and incubated at 37°C in 5% CO₂ for up to 4 weeks. The EDTA tube supernatant was used for *B. henselae* (mixed type I and type II antigens) serological testing using a standard IFA test (5). Culture was performed on the 62 blood samples and 12 (19.3%) cats were found to be bacteremic for *B. henselae*. None of the cultures yielded *B. clarridgeiae* or *B. koehlerae*. Of the 12 bacteremic cats, 5 (42%) had positive cultures for *B. henselae* type Houston I and 7 (58%) had positive cultures for *B. henselae* type Marseille, based on RFLP profile, using DdeI enzyme (6). The median number of colony forming units (CFU) was 385 (range: 147 - 25,300) CFU/ml. For the 5 cats infected with *B. henselae* type Houston I, the median was 259 (range: 147–513) CFU/ml, whereas for the 7 cats infected with *B. henselae* type Marseille, the median was 534 (range: 174-25,300) CFU/ml. Of the five cats which were bacteremic for *B. henselae* Houston I, two were seronegative. Similarly, two of the seven *B. henselae* type Marseille bacteremic cats were seronegative. These four seronegative cats were most likely in the early phase of

bacteremia, being 4-10 weeks old. None of the cats was co-infected with both sub-types. Using a titer of $\geq 1:64$, 37 (60%) cats were seropositive for *B. henselae*. Their age ranged from a few weeks to > 5 years old (median: 11 months), including 7 cats which were < 6 months old. The employee's *B. henselae* titer was 1:64.

These results comprise the first report originating from the Caribbean region of the isolation of *B. henselae* from domestic cats, as well as the confirmation of seropositivity in a human being, despite a rather low titer. Since we were not able to obtain a blood sample from the offending animal, we cannot prove that this cat was the source of the employee's infection. Nevertheless, this study confirms the existence of both *B. henselae* types I and II in Jamaica, even if no specific conclusions can be drawn with regard to their relative prevalence.

The Caribbean has the highest incidence of HIV/AIDS outside of Sub-Saharan Africa, with Jamaica having a HIV prevalence of 1.2% (range 0.6% -2.2%) for persons aged 15-49 years (7). As *B. henselae* is known to cause bacillary angiomatosis and bacillary peliosis in immunocompromised persons, knowledge of its presence in the Jamaican cat population is important for primary prevention. Unfortunately, diagnostic tests for *B. henselae* are not currently available on the island.

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First Author's Biographical Sketch

Dr. Messam is a veterinarian from Jamaica who is currently pursuing a Ph.D in Epidemiology at the University of California, Davis. Dr. Messam's research interests are in the epidemiology of zoonotic diseases and epidemiology's methodology.

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