

Existence of *Angiostrongylus cantonensis* in rats (*Rattus norvegicus*) in Grenada, West Indies (Manuscript in press)

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Abstract

The zoonotic rat lung worm, *Angiostrongylus cantonensis* is endemic to Asia, North America, Africa and Australia. The parasite is expanding geographically and has recently been recorded in some of the Greater Antilles in the northern part of the Caribbean. In this study *A. cantonensis* is reported for the first time in the Lesser Antillies in one of the southernmost islands, Grenada. Between September 2005 and September 2006, 192 rats (*Rattus norvegicus*) were trapped throughout the island. The rats were anesthetized, exsanguinated necropsied and the lungs were fixed whole in 10% buffered formalin, trimmed, processed, cut at 3µm, stained with hematoxylin and eosin and examined microscopically. A total of 45 (23.4%) of the 192 rats examined were found to be infected with *A. cantonensis* and adult worms were found in the cardiopulmonary system of one of the rats. Microscopically, pulmonic lesions, consisting of pulmonary thrombosis, hypertrophy of pulmonary arteries and granulomatous pneumonia were associated with intralesional adults, larvae and embryonated eggs of *A. cantonensis*. An incidental finding of variably sized (2-7mm) solitary to multiple cysts containing larvae of *Taenia taeniaformis* were seen in the livers of 57 rats. This report of *A. cantonensis* in Grenada provides evidence of the further global expansion of this important zoonotic parasite and the public health implications of this discovery is discussed.

Key words: *Angiostrongylus cantonensis*, *Rattus norvegicus*, Prevalence, Histopathology, Grenada, West Indies.