

RESEARCH LETTER

Prevalence of *Dicrocoelium dendriticum* ova in Ghanaian school children

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Dear Editor,

Dicrocoelium dendriticum ova have been detected in human stool throughout the world. The life cycle of this trematode involves both snails and ants as intermediate hosts, and a definitive mammalian host who must ingest ants to become infected. *Dicrocoelium dendriticum* infection in humans is difficult to ascertain despite detecting ova in stool, as this may represent either a true infection or possibly a 'pseudo-infection' following ingestion of the liver of an infected host, typically cow. Two species predominate, *D. dendriticum* and *Dicrocoelium hospes*; however there is limited prevalence data for these organisms worldwide. Here we report the prevalence of *D. dendriticum* ova in the stool of Ghanaian school children as part of a school-based epidemiologic survey for schistosomiasis and soil-transmitted helminth infections.

From December 2013 to February 2014, 418 school-aged children provided two fresh stool specimens from four schools in the towns of Effiduase, Asokore, Ahinsan and Senchi in the Sekyere East district of the Ashanti region of Ghana. The stool specimens were evaluated for intestinal helminth infection by conventional light microscopy. In all, 174 males and 244 females participated in the study with a mean age of 10.4 years. *Dicrocoelium dendriticum*

ova were detected in eight individuals, for a prevalence of 1.91% (Table 1). All children infected with intestinal helminths were treated with albendazole and praziquantel as per regional health protocols.

Dicrocoelium species have been detected in humans in Ghana before. Wolfe described five pseudo-infections with *D. hospes* in hospitalized patients consuming infected beef liver served by their facility [1]. More recently, a cross-sectional survey of young children in Kumasi conducted to evaluate the etiology of anemia detected 2.0% of 197 children

Table 1. Prevalence of *Dicrocoelium dendriticum* ova detected in stool of Ghanaian school children by age and sex

	Number examined <i>n</i>	Children with <i>D. dendriticum</i> ova detected <i>n</i> (%)
Sex		
Male	174	5 (2.9)
Female	244	3 (1.2)
Age (years)		
6–9	191	2 (1.0)
10–12	94	4 (4.3)
13–15	133	2 (1.0)

with *D. dendriticum* in stool samples [2]. Elsewhere in Africa, *D. dendriticum* was detected in 0.2% of 480 Rwandan children who provided stool samples to determine risk factors for vernal keratoconjunctivitis [3]. While most cases likely reflect pseudo-infection [4], the prevalence of true *D. dendriticum* infection is unknown, as a proper diagnosis requires repeated stool examinations in the context of a liver-free diet [5]. The ecology, diet and animal husbandry practices in Ghana are suitable for both real and pseudo-infections, and future studies should determine the true prevalence of this organism and evaluate its clinical implications.

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