

Publication

Association of riverine prawns and intermediate host snails and correlation with human schistosomiasis in two river systems in south-eastern Côte d'Ivoire

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The current emphasis of schistosomiasis control is placed on preventive chemotherapy using praziquantel. However, reinfection may occur rapidly in the absence of complementary interventions. Recent studies from Senegal suggest that predatory prawns might feed on intermediate host snails and thus impact on schistosomiasis transmission. We designed a study with four repeated cross-sectional surveys pertaining to prawns and snails, coupled with a single cross-sectional parasitological survey among humans. We assessed for potential associations between the presence/density of prawns and snails and correlation with *Schistosoma* infection in a composite sample of school-aged children and adults. The study was carried out between October 2015 and December 2016 in 24 villages located near the Agnéby and Mé coastal river systems in south-eastern Côte d'Ivoire. At each site, snails and prawns were collected, and in each village, 150 individuals were subjected to stool and urine examination for the diagnosis of *Schistosoma mansoni* and *S. haematobium*. We found peaks of relative abundance of intermediate host snails in the villages of the Agnéby River system, while predatory prawns were predominantly recorded in the Mé River system. A negative association was observed between intermediate host snail densities and riverine prawns; however, no pattern was found between this trend in the predator-prey relationship and the prevalence of human schistosomiasis.

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