

CAN *SCHISTOSOMA* BE DETECTED BY ENVIRONMENTAL DNA?

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Schistosomiasis is a parasitic disease that causes severe pathology, mortality and economic loss worldwide. It is especially prevalent in Africa. These parasites require intermediate host (snails) in their life cycles. This pathogen continues to extend to new geographical regions despite significant advances in control. To fully understand the dynamics of schistosomiasis transmission, integration of the ecological factors that affect both humans and freshwater snails is needed. New diagnostic methods that target extra-organismal environmental DNA (eDNA) can offer better identification of human-infecting *Schistosoma* in epidemiological studies. These methods could also provide more sensitive detection in low population densities of the target organisms. Therefore, this study aimed to design and test real-time qPCR probes and primers for *Schistosoma mansoni*, *S. haematobium* and *S. japonicum* by amplifying species-specific amplification. The developed primers were tested on microcosm eDNA samples with confirmed *S. mansoni* presence in the cultures of gastropods. These developed primers and probes successfully identified the presence of *Schistosoma* within eDNA from the natural environment (Tanzania), thereby indicating that eDNA monitoring is a valid method for the detection of *Schistosoma* in freshwater bodies.

Biography

Hind A Alzaylaee has completed her Masters' Degree from Taif University, Saudi Arabia and she is currently doing her PhD at University of Bristol. She is a Lecturer of Parasitology, Princess Nourah Bint Abdulrahman University, Saudi Arabia.

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