Schistosomiasis from the rice fields of north-eastern Rwanda?

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INTRODUCTION

Rwanda is one of the poorest and most densely settled countries in sub-Saharan Africa (US Department of State 2009). Food insecurity is one of the challenges facing the rural communities. To provide more food to communities, the government of Rwanda has embarked on commercial rice farming, constructing dams, reservoirs and canals to irrigate the rice fields of Rural Sector Support Projects (RSSP).

However, increasing crop yield through establishment of irrigation schemes often leads to increase transmission of diseases such as Schistosomiasis (Ofoezie, 2002).

Irrigation schemes modify fresh water environments, favouring the survival and reproduction of fresh water snails (Steinmann et al., 2006). Many species of freshwater snails act as intermediate hosts of Schistosoma, a parasite posing a public health risk to humans and livestock.

METHODS

We investigated infection of fresh water snails with Schistosoma in recently constructed rice irrigation systems in Rwempasha Sector (Figs. 4, 5). A total of 89 snails were opportunistically collected and identified using (Brown 1994; Figs. 1, 2). Snails were placed in lukewarm water to increase cercariae shedding. Schistosoma cercariae (Fig. 3) were identified in Bulinus truncatus/natalensis and Biomphalaria pfeifferi (Figs. 6).

However, we did not identify Schistosoma to species level.

RESULTS & CONCLUSION

Our preliminary study showed that Bulinus (cf. natalensis or truncatus) occurs in north-eastern Rwanda. Both species are intermediate hosts of S. haematobium parasitizing man (Sudan, W DRC), and of S. bovis infecting only bovids (Brown, 1994). It is therefore highly warranted to determine the Schistosoma spec. prevailing in the RSSP rice scheme. Biomphalaria pfeifferi is compatible with S. mansoni, a species parasitizing man all over tropical Africa (Brown, 1994).

Further research is urgently needed to investigate the distribution of snails and parasites in the RSSP rice irrigation schemes in north-eastern Rwanda and to assess the potential health risk posed to communities and livestock. This will involve a larger sample size and the sampling of more study locations. Eventually, a health survey targeting the dispensaries and hospitals in the area is imperative.

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References


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