

Tracking Hybrid Schistosomes from *Bulinus* spp. Snails from Malawi

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Malacological surveillance at 12 regular sample sites in Mangochi, Chikwawa and Nsanje districts in Malawi was conducted in parallel with human cohort surveys as part of the Hybridisation in Urogenital Schistosomiasis (HUGS) project. Collected *Bulinus* spp. were inspected for shedding cercariae with seen cercariae stored individually on Whatman FTA cards and transported back to the UK alongside snails stored in ethanol. Upon molecular investigation of shed cercariae using a novel high-resolution melt assay it was found that hybrid *Schistosoma haematobium/Schistosoma mattheei* cercariae were shedding from snails collected at two sites in Mangochi; Mangochi 7 (-14.44386, 35.30623) and a supplementary site called Kingfisher (-14.390356, 35.218304). Additionally, extracted and analysed DNA from snails has shown snails from Mangochi 4 (-14.42255, 35.23224), Mangochi 7 and supplementary site Mangolenje (-16.169111, 34.709611) in Chikwawa as having *S. haematobium* melt temperatures in the mitochondrial *cox1* gene and *S. mattheei* in the ribosomal *ITS*. Furthermore, snails from Mangochi 7 have also indicated *S. haematobium* and *S. bovis* and snails at Mangochi 3 (-14.36915, 35.17623) showing *S. bovis* and *S. mattheei* mixed signals. However, it is hard to distinguish hybrid infections from mixed species infections in extracted snail DNA.

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