In 1915, Dr. E. Warren of the Natal Museum at Pietermaritzburg observed schistosome cercariae develop in Physopsis africana (currently known as Bulinus africanus) upon exposure to urine from an infected patient in South Africa [2]. Following Dr. Warren’s findings, Dr. Cawston collected several hundred snails in various parts of Natal, South Africa; his findings indicated that up to 10% of Physopsis (Bulinus) snails were infected [2]. Dr. Cawston noted that the Crocodile River and surrounding pools were hotbeds for schistosome infection, as many locals bathed at these sites [2]. Prevention methods were put into place, including the use of disinfectants in the school urinals and education on schistosomiasis transmission, however, these efforts were focal in nature [2]. Dr. Cawston advocated for snail control to be expanded including: removal of decomposing reeds from stagnant water, filling unsuitable pools to prevent their use, and application of cyanide of lime to kill the snails [2]. The antiparasitic drugs hexamethylenamin, buchu, and sodium salicylate were used during that era for treating individuals presenting schistosomiasis symptoms in local health clinics and hospitals [2].
History continued..

Additional research on schistosomiasis was conducted in Natal, South Africa following the arrival of military troops from Egypt [3]. Medical professionals, for example, were concerned about the potential for Schistosoma mansoni transmission in the Durban suburbs [3]. In 1919, Dr. Annie Porter reported both S. mansoni and S. haematobium infection in Bulinus africanus (again referred to as Physopsis africana) and Lymnaea natalensis snails collected at pools near the towns of Mayville and Sydenham [3]. However this may have been in error, because in order to find both schistosomes, Porter must have collected Biomphalaria spp. snails as well. Most notably, Dr. Cawston and Dr. Porter noted that snail infestation significantly decreased in pools where the white duck was introduced: upon returning to the pool sites in August 1921, shortly after introducing ducks, no snails were present [3].

National assessments of schistosomiasis in South Africa reported 10.8% nationwide prevalence in 1995 and 2003, which increased slightly to 11.7% nationwide prevalence in 2010 [4, 5]. Lai et al. performed a meta-analysis that reported 16.4% nationwide prevalence in South Africa in 2012, with an S. haematobium prevalence of 12.4% and S. mansoni prevalence of 4.7% [6].

Schistosomiasis control in South Africa

Recent efforts for preventive chemotherapy have been monitored by the World Health Organization in South Africa; however, no praziquantel distribution has been reported in the last decade [7]. This is despite South Africa having one of the highest per capita GDPS among schistosomiasis-endemic countries, on par with Brazil and China and higher than Egypt, all three of which, unlike South Africa, have had long-standing and relatively effective schistosomiasis control programs.

References