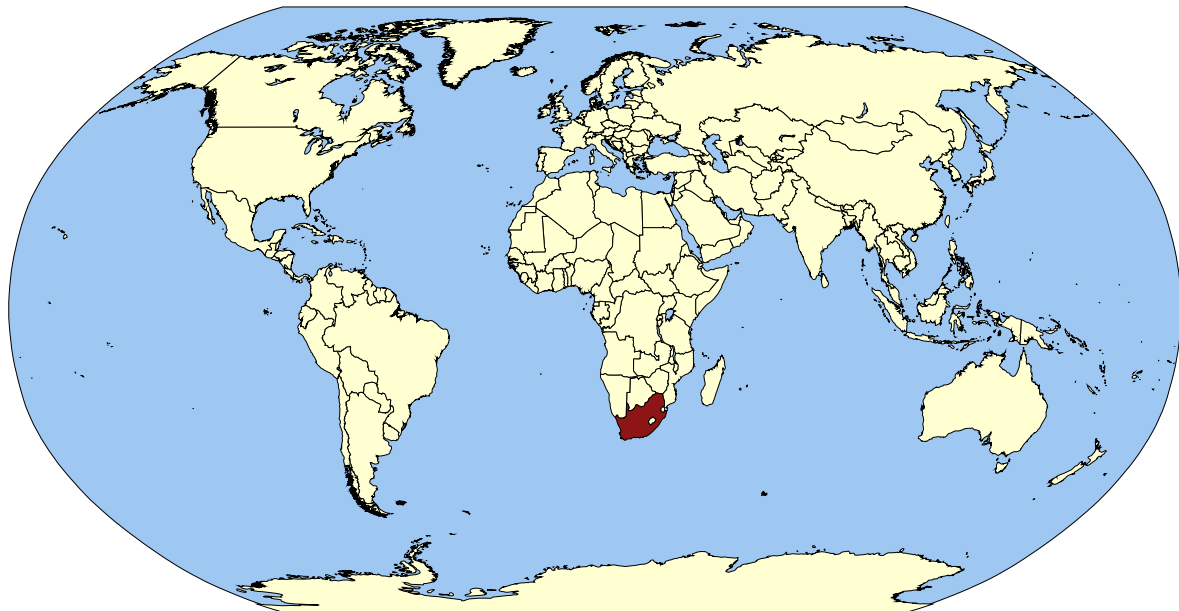


South Africa



The History of Schistosomiasis in South Africa

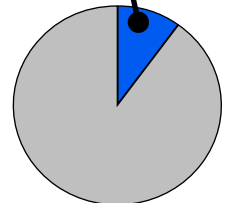
In 1915, Dr. E. Warren of the Natal Museum at Pietermaritzburg observed schistosome cercariae develop in *Physopsis africana* (currently known as *Bulinus africanus*) upon exposure to urine from an infected patient in South Africa [2]. Following Dr. Warren's findings, Dr. Cawston collected several hundred 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].

Schistosomiasis in South Africa [7]

>5 million people required treatment in 2014

10% of the population requires preventative chemotherapy for schistosomiasis

In 2014, 47% of the population requiring preventative chemotherapy were school-aged children



Overview of South Africa [1]

- » Population in 2015: 53,675,563
- » Official Language: IsiZulu
- » Capital: Pretoria
- » Parliamentary Republic
- » Percentage of Population with Access to Improved Drinking Water in 2015: 93.2%
- » Percentage of Population with Access to Improved Sanitation in 2015: 66.4%

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.

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