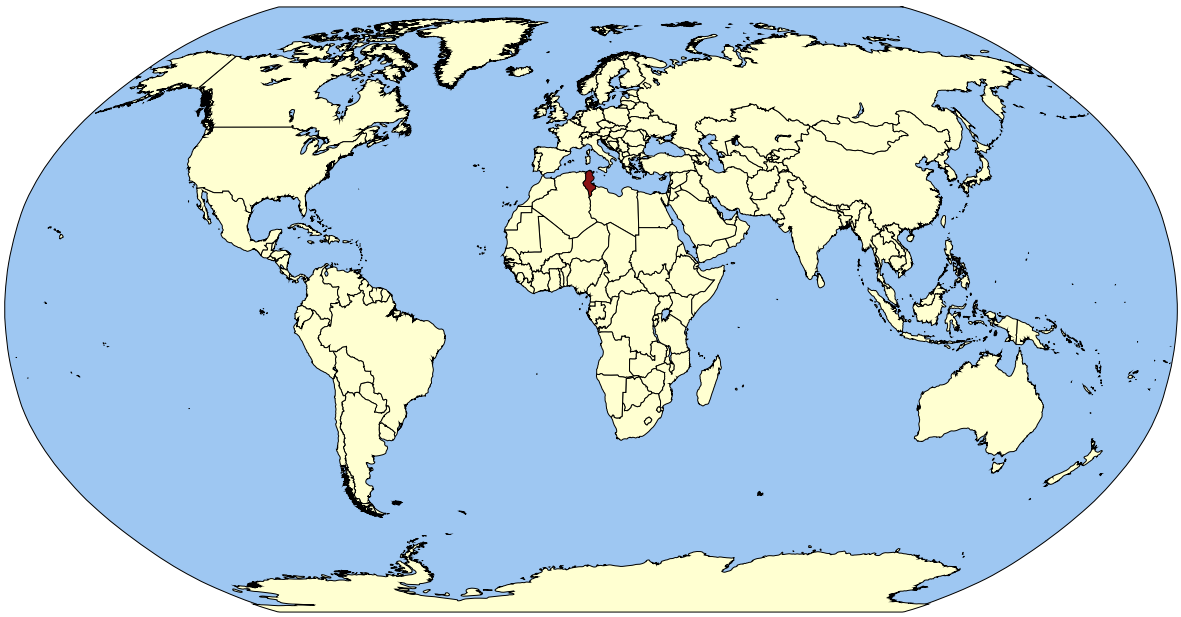
Tunisia

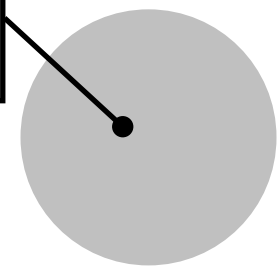


The Story of Tunisia: Isolated Cases and Systematic Control

Schistosomiasis was first officially reported in southern Tunisia in 1908, and this region remained endemic with high prevalence rates for decades.[1] In 1967, before the implementation of a decade-long, government-supported control initiative in the 1970s, 11.6% of the country's population was exposed and prevalence was as high as 64% in southern regions like the district of El Hamma.[2] Strategies to approach schistosomiasis control in Tunisia have been straightforward, as *Schistosoma haematobium* is the sole human schistosome species, *Bulinus truncatus* is the sole intermediate host snail, and oases are the primary disease transmission sites. Though oases were frequently used by nearby communities, they are isolated and easy to treat.[3] Before executing the first control initiative in 1970, control teams found baseline prevalence of 41.3% in transmission sites that contained the host snail *B. truncatus*, and estimated that 160,000-200,000 Tunisians were at risk of infection.[1] Nationwide prevalence was estimated at 8.9%, with maximum local prevalence up to 80% in school-age children from the endemic region.[4]

Schistosomiasis in Tunisia

Schistosomiasis **eliminated** due to successful snail control



Overview of Tunisia [7]

- Population in 2015: 11,037,225
- Official Language: Tunis
- Capital: Tunis
- Republic
- Percentage of Population with Access to Improved Drinking Water in 2015: 97.7%
- Percentage of Population with Access to Improved Sanitation in 2015: 91.6%

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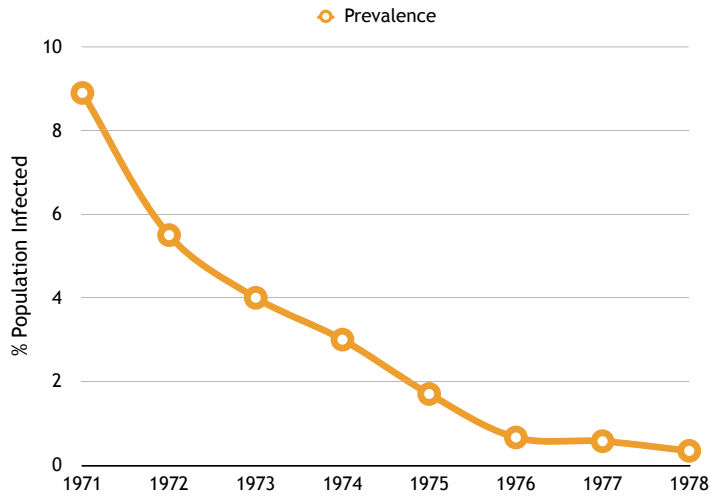
The Schistosomiasis Elimination Plan

In 1969, the Tunisian government included schistosomiasis in a disease elimination plan aimed at reducing the burden of infectious disease and increasing tourism.[4] The program began in June of 1970 with three major strategies: (1) monthly surveys of all sites previously identified as containing *B. truncatus*, and subsequent molluscicide with niclosamide if positive[4]; (2) mass screening and treatment of infected human residents with niridazole (or metrifonate, if subjects presented counterindications to niridazole)[1]; (3) annual comprehensive screening in 10 highly infected villages, until 1978 when screening continued every other year due to rapidly falling infection rates[1]. There is some mention of praziquantel use, though disease was all but eliminated from Tunisia in the early 1980s when the drug became readily available.[4] Personnel from the control teams were inhabitants of the endemic area, which may have helped to avoid cultural and linguistic problems and improve the program's success.[3]

Success with Molluscicides

The first treatment round of molluscicides in 1971-1972 eliminated *B. truncatus* from 75% of infested sites.[4] The government allocated significant resources to the program; for example, in 1976 it budgeted $65,411 USD (0.1% of $120,728,410 total healthcare budget that year) to hire and equip 34 employees to treat patients and cover 75 square kilometers of the country with molluscicides.[5] There was a steady decline in prevalence throughout the elimination program. Less than one percent of Tunisians were infected just 5 years after the program's initiation, down from initial estimates of 8.9% prevalence.



Decline in Prevalence

As Tunisia deployed molluscicides in infected oases, prevalence rates drastically decreased to near zero. The last cases of schistosomiasis were reported in 1982.

References

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Schistosomiasis was declared eliminated from Tunisia as early as 1980.[6] However, the last autochthonous cases occurred in 1981-1982.[3] By 1994, artesian wells had dried up a large percentage of the oases that had previously harbored *B. truncatus*, diminishing any possibility of the disease's return.[3]

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