Schistosomiasis in the Guadeloupe archipelago may be interrupted, but confirmation of its non-endemic status awaits evaluation and verification by the World Health Organization. Previous cases were known on the islands of Grande-Terre (entire island) and Basse-Terre (coastal areas). Human infection occurred via the human schistosome, *Schistosoma mansoni*, and the transmission cycle was sustained via the obligatory intermediate snail host, *Biomphalaria glabrata* [1]. Near-total interruption was achieved following a biological control program initiated in 1978, but transmission is still sustained in small foci in the marshes of Grande-Terre in the black rat species, *Rattus rattus* [2]. Prevalence of *S. mansoni* peaked in the 1960’s and 1970’s. In 1978, before the control program was carried out, human prevalence was estimated at 25% [2]. By 1985, estimates were as low as 15% [3]. As of 2003, national prevalence was estimated at 1% [4].
Implementing Biological Control

When control began, eliminating schistosomiasis through biological control methods was a regional strategy - neighboring island nations, most notably Martinique, were simultaneously taking advantage of the potential for competitor snails that do not harbor infection to rapidly displace B. glabrata in their natural environments [2]. Prior to control, active transmission occurred in streams and manmade canals on Basse-Terre and in mangrove swamps on Grande Terre Island. Urban transmission sites were controlled quickly, by 1975, through engineering measures [5]. On Guadeloupe, two strategies of biological control were tested: (1) the intentional introduction of the castrating trematode Ribeiroia guadeloupensis in 1978 that infects B. glabrata more efficiently than schistosome trematodes, and (2) the introduction of the competitor snail species Pomacea glauca in 1976, M. cornuarietis in 1987, and M. tuberculata in 1985 [2]. The first strategy was implemented in one pond, and resulted in the near total disappearance of B. glabrata snails. The use of B. glabrata snail exclusion via displacement by the introduction of competitor snails was applied in the whole hydrographic system of Basse-Terre, where M. tuberculata snails have colonized and now dominates the system. B. glabrata populations exist in very low density and do not pose as a threat for schistosomiasis transmission resurgence [2]. The use of this snail was not as successful on Grande-Terre Island, where it co-exists with B. glabrata and transmission still occurs in the black rat.

Disease Prevalence in Guadeloupe

Disease prevalence in Guadeloupe has decreased of the past few decades, but the current prevalence level is unknown. Guadeloupe is a good example where more robust data is needed, since there are conflicting reports, some reporting that human transmission is considered interrupted [2], and others claiming that infection risk remains present across the islands [1].

References

1. IAMAT. IAMAT Guadeloupe Schistosomiasis. at <https://www.iamat.org/country/guadeloupe/risk/schistosomiasis>