Large-scale entomologic assessment of Onchocerca volvulus transmission by poolscreen PCR in Mexico.


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To study the impact of mass Mectizan treatment on Onchocerca volvulus transmission in Mexico, entomological surveys were carried out in the endemic foci of Oaxaca, Southern Chiapas, and Northern Chiapas. Collected flies were screened by polymerase chain reaction (PCR) for O. volvulus parasites. The prevalence of infected and infective flies was estimated using the PoolScreen algorithm and with a novel probability-based method. O. volvulus infective larvae were not detected in flies from 6/13 communities. In 7/13 communities, infective flies were detected, with prevalences ranging from 1.6/10,000 to 29.0/10,000 and seasonal transmission potentials ranging from 0.4 to 3.3. Infected and infective flies were found in a community in Northern Chiapas, suggesting that, according to World Health Organization criteria, autochthonous transmission exists in this focus. These data suggest that O. volvulus transmission in Mexico has been suppressed or brought to a level that may be insufficient to sustain the parasite population.

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