

BLACK FLIES *SIMULIUM*

onchocerciasis

Name *Simulium damnosum*
 Length 3 mm
 Longevity as a biting insect 2-3 weeks
 Special feature capable of active flight for tens of kilometres

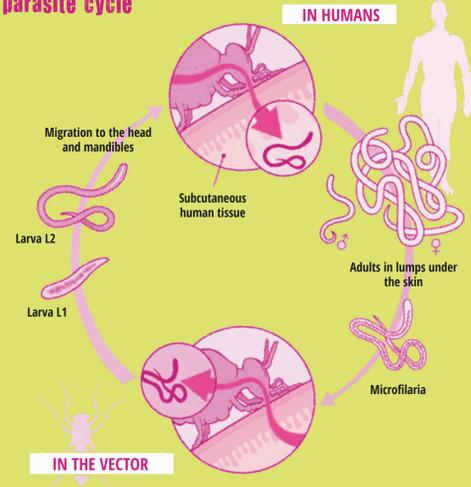


Biology of the vector

Simulium are black flies. Their larvae and pupae live in fast-flowing rivers. Adults emerging from their spun cocoons rise to the surface in an air bubble. Only the females feed on blood. They tend to bite in daytime.

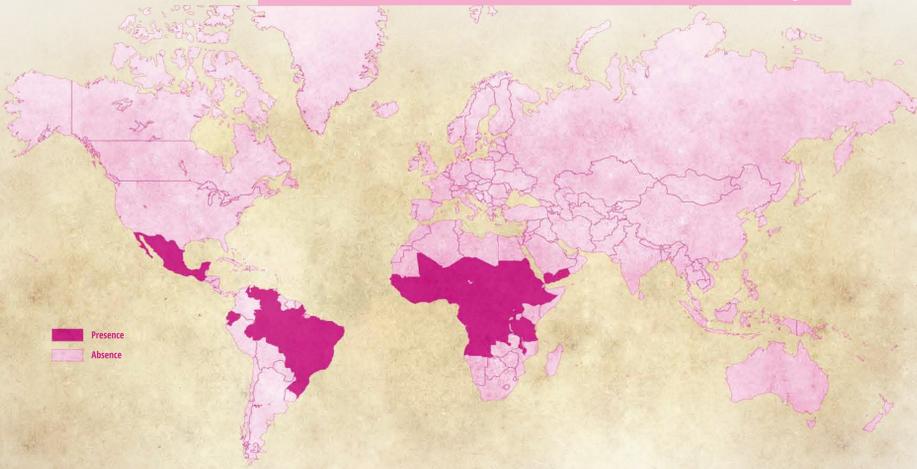


The onchocerciasis parasite cycle

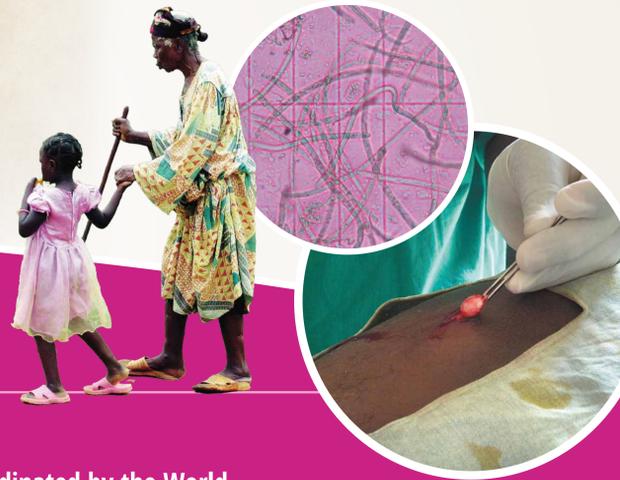


Geographic distribution

The distribution of onchocerciasis today



The biological constraints of larvae mean that *Simulium* are found in particularly large numbers near rivers. 99% of cases of onchocerciasis or 'river blindness' have been recorded in Africa.



Vector transmission

The main infectious agent transmitted to humans by *Simulium* black flies is the parasitic worm *Onchocerca volvulus* that causes onchocerciasis. The microfilaria laid by adult worms burrow into the skin and ocular tissues, causing lesions that may result in irreversible blindness. The disease is particularly prevalent in rural areas of African savannah where outbreaks are seen along watercourses.

In operations coordinated by the World Health Organization (WHO), with a primordial contribution by IRD, larvicides were sprayed over rivers from 1974 to 2002 by the Onchocerciasis Control Programme in West Africa. This allowed the repopulation of fertile valleys that now carry no risks for the population. Today, 37 million Africans are still infected and 90 million live in risk zones.



Prevention and control

Two types of measure are recommended:

- Protect against bites using chemical repellents and appropriate clothing
- If prevention fails, treat using Ivermectine, an effective medication against microfilaria

Monitoring onchocerciasis outbreak areas will make it possible to maintain the progress made

