

Removal of Attachment Sites Can Reduce the Population of Black Flies in Endemic Communities - An Editorial Review

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Onchocerciasis is a disease of public health importance. It is estimated that about 18 million people world-wide are infected with the disease whereas 270,000 people have become blind as a result of the disease (WHO, 2003; Okulicz, 2005).

The disease is caused by a parasitic nematode spread to man by the bites of several species of black flies of the genus *Simulium*. Black flies breed in fast flowing rivers and streams. In most rural communities in Africa, the local folks depend on land as their major source of livelihood-farming, hunting, logging, honey-gathering, etc. These activities bring humans in contact with and expose them to the ravaging bites of forest insects, especially black flies.

Many programmes have been instituted for the prevention and control of onchocerciasis. The Onchocerciasis Control Programme (OCP) was launched in 1974 and its activities catered for about 30 million people in 11 countries. The programme relied on the use of larvicides on *Simulium*-infested streams or rivers and Ivermectin to treat onchocerciasis-infected persons. In 1992, the Onchocerciasis Elimination Programme for the Americas (OEPA) was launched and it also relied on the use of Ivermectin. In 1995, the African Programme for Onchocerciasis Control (APOC) was launched and it also relied on the use of Ivermectin (WHO, 2010). All these Programmes have

been largely successful, but with a huge financial strain on the funding organizations and countries.

While working on the distribution of black flies in two rural communities, Akpan et al. [1], identified *Simulium sirbanum* and *S. yahense* as the most prevalent species of black flies in the two communities. They also observed that the eggs, larvae and pupae of these flies attached preferentially on to the leaf blades of the water-plant *Pandanus candelabrum* (Screw pine) (Plate 1a). This plant was widespread along the water course at the two breeding sites studied (Plate 1b). Compared to the underlying rocks, leaves and other objects submerged in the river, the simuliid larvae and other stages attached more on to the leaf blades of the water plant [2-4].

It is suggested here that physical removal of this plant along the water course, especially near human settlements, can deprive the black flies of their preferred attachment sites. This, in turn, shall go a long way to drastically reduce the population of black flies which successfully breed to maturity. This approach is simple, requires manual labour and cost-effective. The removal of this plant can provide a daily-paid job to the local dwellers. So, this method should be given a trial in endemic communities.

References

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Plate 1a: Close up Picture of *Pandanus candelabrum* (common name Screw pine).



Plate. 1b: Study site showing *Pandanus candelabrum* (common name Screw pine).

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