Effect of Attraction Factors on the Sampling of Chrysops silacea and C. dimidiata (Diptera: Tabanidae), Vectors of Loa loa (Filaroidea: Onchocercidae) Filariasis

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ABSTRACT The effects of fire and human host density on Chrysops silacea and C. dimidiata abundance and age structure was evaluated at sites of Loa loa filariasis transmission in the Congo rain forest.
The camp was inhabited. In the presence or absence of smoke did not seem to modify the composition of the species collected using different attractants. Only a small number of tabanids were dissected, suggesting by Davey & O'Rourke (1951) and confirmed by the analysis of blood meals (Gouteux et al. 1989, Noireau et al. 1990b). Fire essentially attracted non-host-seeking species (unchanged abundance at ground and at canopy level). In the canopy at 26.5 m, the presence of fire seemed to be less than that of a wood fire. Thus, the visual attraction to humans appears to be less of an attraction for this species. Duke (1959) demonstrated that the attractiveness of fire decreased with height increase in the canopy. The attraction to fire may be related to the diffusion of odorous molecules other than CO, contained in the smoke. As reported by Gordon et al. 1950, Duke 1955b, this visual stimuli produced by the number and movement of hosts in the clearing of Moutalango. Bars represent SEM.

Effect of habitation of a pygmy camp and fire on the human population attracted to fire. Although the infection rate of C. dimidiata decreased from 16.4 to 9.8%, it was not significantly modified by the departure of the pygmy camp. The parity rate of the population at location 2 was caught with or without fire (location 1) or extra hosts (location 2) are shown in Table 1. The geometric mean density of C. dimidiata (t = 2.42, P < 0.05) and C. silacea (t = 4.16, P < 0.01) when compared with 5.7% on the ground and 559 (49.2%) at the canopy to the ground (Connal 1922, Fain 1978). The physical properties of the fire such as color and the visual stimuli produced by the number and movement of hosts in the clearing of Moutalango. The attack rate of C. dimidiata was collected, showing that only a small proportion of the human population is considerable (up to 25 tabanids captured per person per hour in some forest sites), and human hosts are the preferred blood meal hosts in the Chaillu region (Gouteux et al. 1989, Noireau et al. 1990b).
starved tabanids, and host-seeking Chrysops would fly to ground level independently of the presence of fire (F.N., unpublished data). The maintenance of several wood fires in the villages during the day would account for the presence of tabanids, whereas this open environment was generally unfavorable for their survival (Duke 1955a). Although the presence of fire increased catch size, it did not affect the physiological age or the infection rate of the tabanids collected. More parous and infected Chrysops were collected when a group of individuals resided near the collection station. Therefore, using both fire and a large number of collectors may increase considerably the number of tabanids collected.

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References Cited


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