

The Effect of CO₂, Sweat, Chemical Vapours and Air on *Simulium ornatum*: Implications for Control

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Abstract

Studies on the response of the blackfly *Simulium ornatum s.l.* (Diptera Simuliidae) to carbon dioxide (CO₂), acetone, 1-octen-3-ol and air was conducted in the laboratory using a Y-tube olfactometer. The blackflies were found to exhibit a high degree of activity in the olfactometer and responded to the various odours. The results showed that CO₂ and 1-octen-3-ol were attractive to the flies at low concentrations (< 1% CO₂ & < 2.5% 1-octen-3-ol) and repellent at high concentrations (> 2% CO₂ & > 4% 1-octen-3-ol). Humidified air was found to be an attractant, and dry air a repellent. Acetone at low concentrations (< 0.2%) did not appear to have any effect, while at higher concentrations (> 1%) it repelled. The results indicate that the use of attractive odours could be beneficial in reducing vector biting of hosts if used in areas where the host is present.