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ASPECTS OF THE BIOLOGY AND ECOLOGY OF THE
STABLE FLY STOMOXYS CALCITRANS (L.)

(DIPTERA: MUSCIDAE)

THIS THESIS HAS BEEN ACCEPTED FOR
THE DEGREE OF MASTER OF SCIENCE
AND A CANDIDATE FOR THE
UNIVERSITY OF NAIROBI

BY

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A B S T R A C T

The Presence of the stable fly Stomoxys calcitrans Linnaeus 1758 in some parts of the Central and Rift Valley provinces of Kenya is confirmed. The breeding materials of S. calcitrans in these areas are reported as to their nature with regard to texture, water content and temperature. The diurnal biting activities of S. calcitrans on cattle along the shores of the fresh water Lake Naivasha had two peaks, one in the morning and second in the afternoon. The biting activities appeared to be influenced by weather factors.

Artificial rearing of all the stages of S. calcitrans in the laboratory were successfully made. Adults thrived on bovine blood treated with critically determined amounts of drugs. The immature stages utilized a complex of wheat bran, sawdust and water larval medium in which these ingredients were mixed at pre-determined rationings. Effects of temperature on S. calcitrans immature stages were also assessed.

The performance of newly emerged flies on diets of distilled water, 10% sucrose solution, whole citrated bovine blood with and without sugar was evaluated. It was inferred that no oviposition was possible when the flies were reared on distilled water and sucrose solution only. Both S. calcitrans sexes failed to survive when maintained on distilled water alone. Their life spans were much less significant against a diet of 10% sucrose solution as compared to the life spans sustained by diets of citrated bovine blood with and without sugar.