

**AN AUTOMATED IDENTIFICATION SYSTEM FOR SRI LANKAN
ANOPHELINE MOSQUITO SPECIES BY SPOT ANALYSIS**

A PROJECT REPORT PRESENTED BY

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to the Board of Study in Statistics & Computer Science of the
POSTGRADUATE INSTITUTE OF SCIENCE

*in partial fulfillment of the requirement
for the award of the degree of*

MASTER OF SCIENCE IN COMPUTER SCIENCE

of the

**UNIVERSITY OF PERADENIYA
SRI LANKA**

2005

591007

ABSTRACT**An Automated Identification System for Sri Lankan Anopheline
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An automated method has been developed to analyze and identify the spots in the wing and legs of Sri Lankan Anopheline mosquito species by a novel approach of using digital image processing and statistical methods.

The design of the method of species spot identification follows a step-by-step strategy which mirrors the taxonomy of Anopheline mosquitoes in Sri Lanka. The overall system was modularized into three stages: preprocessing, segmentation and feature extraction. The preprocessing stage contains the techniques, which deal directly with the raw, possibly noisy, pixel values with denoising and blurring. The segmentation stage finds and establishes outlines of specific spot domains using mathematical morphology and automatic thresholding techniques. The feature extraction stage obtains semantic spots and useful quantitative parameters from the segmented image.

In this work about more than twenty samples of Anopheline mosquitoes were analyzed with satisfactory results. It can be expected that with the availability of a more sample dataset the performance of the system can be improved. The initial part of important work is accomplished and for full automation a suggestion is proposed using neural network and image database matching.