

ASSESSMENT OF MOSQUITO TRAP USING SEMIOCHEMICAL AS AN
ATTRACTANT

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk: **ASSESSMENT OF MOSQUITO TRAP USING SEMIOCHEMICAL AS AN ATTRACTANT** oleh **BREMA LATHA NARAINSAMY**, no. matrik: **UK14787** telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh ijazah **SARJANA MUDA SAINS (SAINS BIOLOGI)**, Fakulti Sains dan Teknologi, Universiti Malaysia Terengganu.

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DECLARATION

I hereby declare that this research report entitled Assessment of Mosquito Trap Using Semiochemical as an Attractant is the result of my own research except as cited in the references.

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ABSTRACT

A semiochemical is a chemical substance or mixture that carries a message. These chemicals acts as messengers for members of the same species or in some cases other species. It is usually used in the field of chemical ecology to encompass pheromones, allomones, kairomones, attractants and repellents. Semiochemicals are used as increasingly important components of integrated pest management strategies for a growing number of insect species. Traps baited with attractant are being considered as an alternative to prevent the usage of chemical insecticide, which is hazardous and toxic. In an effort to minimise the usage of chemical insecticide, an assessment of traps baited with attractant was conducted. This study was carried out at several locations in rural and urban area of Kuala Terengganu which include shop, hostel, house, tyre shop, petrol station, construction site-1, construction site-2, shop lots, abandoned house and abandoned shop, Pasar Payang, Chinatown, temple, shop lots, petrol station, Pangsapuri Jernih, school and abandoned house. A total of 732 adult mosquitoes were collected. Among them, 471 mosquitoes were collected in traps baited with attractant whereas, 261 mosquitoes in control traps. From this study, *Culex* sp. were captured the most as compared to *Aedes* sp., suggesting that the attractant is more effective towards *Culex* sp. More female mosquitoes were captured compared to the male mosquitoes which indicates that female mosquitoes are attracted to the attractant since the attractant mimics human odor and the female mosquito is in search for host (blood meal). As a conclusion, this study indicates that traps baited with attractant is a suitable strategy to control the population of mosquito in urban and rural area.

PENILAIAN TENTANG PERANGKAP NYAMUK MENGGUNAKAN 'SEMIOCHEMICAL' SEBAGAI BAHAN TARIKAN

ABSTRAK

'Semiochemical' adalah bahan kimia atau campuran yang membawa utusan. Bahan kimia ini bertindak sebagai utusan bagi spesies yang sama atau dalam beberapa kes bagi spesies yang . Biasanya 'semiochemical' digunakan di dalam bidang ekologi kimia untuk menjaring feromon, allomonas dan kairomonas. 'Semiochemical' digunakan sebagai komponen untuk strategi pengurusan perosak bersepadu untuk pelbagai spesies serangga. Perangkap berumpan dengan bahan tarikan sedang dipertimbangkan sebagai alternatif untuk mengelakkan penggunaan bahan kimia serangga perosak yang berbahaya dan beracun. Dalam usaha untuk mengurangkan penggunaan racun serangga, penilaian perangkap berumpan dengan bahan tarikan dijalankan. Penelitian ini dijalankan di beberapa lokasi di kawasan luar bandar dan bandar di Kuala Terengganu yang meliputi kedai, asrama, rumah, kedai tayar, stesen petrol, kawasan pembinaan-1 dan kawasan pembinaan-2, kawasan kedai, rumah kosong, kedai kosong, Pasar Payang, Chinatown, kuil, Pangsapuri Jernih, dan kawasan sekolah. Sebanyak 732 nyamuk dewasa ditangkap. Dari jumlah tersebut, sebanyak 471 nyamuk telah ditangkap dalam perangkap berumpan dengan bahan tarikan manakala, 261 nyamuk dalam perangkap kawalan. Dari kajian ini, *Culex* sp. ditangkap paling banyak berbanding *Aedes* sp. Ini menunjukkan bahawa bahan tarikan yang digunakan lebih berkesan terhadap *Culex* sp. Lebih banyak nyamuk betina diperolehi berbanding nyamuk jantan yang menunjukkan bahawa nyamuk betina tertarik kepada bahan tarikan kerana ia mencari bekalan makanan (darah) untuk pembesaran telurnya. Sebagai kesimpulan, kajian ini menunjukkan bahawa perangkap nyamuk berumpan dengan bahan tarikan adalah strategi yang sesuai untuk mengawal populasi nyamuk di kawasan bandar dan luar bandar.