

ABSTRACT

The ecology of mosquitoes (Diptera: Culicidae) was studied at Samarahan Division coconut plantations from December 2011 to November 2012. The main objective of this study was to determine the diversity of mosquito species at the site by using three different types of ovitraps at both coconut plantations. The sites were at two locations with six replications at Asajaya and Sadong Jaya coconut plantations. Ovitrap method was used to sample mosquito larvae and pupae at all the sites. A total of 36 coconuts without flesh ovitraps, 36 coconuts with flesh ovitraps and 36 plastic containers ovitraps were set at both coconut plantations. Water temperature, pH and COD (chemical oxygen demand) were recorded from water samples collected from each ovitraps. The pH and water temperature were constant throughout this study but COD varies with the types of ovitrap used. The data of ambient temperature and relative humidity from both coconut plantations were constant throughout the year. Low rainfall data were recorded during the dry season around the middle of the year. A total of eleven mosquito species were collected from all the ovitraps, namely *Aedes albopictus*, *Ae. albopictus*, *Ae. albopictus*, *Armigeres confusus*, *Ar. jugraensis*, *Ar. malayi*, *Ar. moultoni*, *Ar. setifer*, *Culex fragilis*, *Toxorhynchites splendens*, and *Tripteroides denticulatus*. Throughout the study, *Ae. albopictus* was the most abundant mosquito species collected from the plastic container ovitraps as compared to other mosquito species. A total of 1,364 *Ae. albopictus* was collected from plastic container ovitraps at both coconut plantations during the study. Meanwhile, throughout this study *Cx. fragilis* was the most abundant mosquito collected from the coconut without flesh ovitraps with a total of 1,743 specimens as compared to plastic container ovitraps and coconut with flesh ovitraps. In this study, the numbers of mosquito species collected were related to the types of ovitraps and environmental conditions surrounding the coconut plantations. The present research allows for an assessment of

bionomics, density and diversity of mosquito species at Samarahan Division coconut plantations.

Keywords: mosquito larval bionomics, container-breeding mosquitoes, coconut ovitraps, coconut plantations mosquitoes

Bionomik Jentik-Jentik Nyamuk yang Membiak di dalam Perangkap Nyamuk di Ladang Kelapa di Asajaya dan Sadong Jaya, Bahagian Samarahan, Sarawak

ABSTRAK

Kajian ekologi nyamuk telah dijalankan di ladang kelapa Bahagian Samarahan dari Disember 2011 hingga November 2012. Objektif utama kajian adalah untuk mengetahui kepelbagaian spesies nyamuk menggunakan tiga jenis perangkap di dua buah ladang kelapa. Sejumlah enam replikasi dipasang di dua buah ladang kelapa iaitu di Asajaya dan Sadong Jaya. Kaedah perangkap yang digunakan adalah untuk mengumpul jentik-jentik dan pupa pada kesemua enam replikasi kawasan. Sebanyak 36 perangkap kelapa tanpa isi, 36 perangkap kelapa berisi dan 36 perangkap bekas plastik dipasang di kedua-dua buah ladang kelapa. Sampel air dikumpul dari setiap perangkap untuk mengkaji suhu air, pH dan keperluan oksigen kimia (COD). Bacaan untuk pH dan suhu air adalah malar tetapi bacaan COD dipengaruhi oleh jenis perangkap yang dipasang. Manakala suhu persekitaran dan kelembapan relatif di kedua-dua ladang kelapa menunjukkan bacaan yang stabil sepanjang tahun. Data hujan mencatatkan bacaan yang rendah pada musim kemarau di pertengahan tahun. Sebanyak sebelas spesies nyamuk yang dikumpul dari semua jenis perangkap ialah Aedes albopictus, Ae. albolateralis, Ae. albolineatus, Armigeres confusus, Ar. jugraensis, Ar. malayi, Ar. moultoni, Ar. setifer, Culex fragilis, Toxorhynchites splendens dan Tripteroides denticulatus. Sepanjang tempoh kajian, nyamuk Ae. albopictus mencatatkan jumlah yang tertinggi dengan menggunakan perangkap bekas plastik berbanding dengan nyamuk spesies lain. Sejumlah 1,364 nyamuk Ae. albopictus yang dikumpul dari perangkap bekas plastik di kedua-dua ladang kelapa sepanjang tempoh kajian. Kajian ini juga menunjukkan, Cx. fragilis mencatatkan kutipan nyamuk yang tertinggi iaitu sebanyak 1,743 dengan menggunakan

perangkap kelapa tanpa isi berbanding dengan penggunaan perangkap bekas plastik dan perangkap kelapa berisi. Dalam kajian ini, bilangan jenis nyamuk yang dikumpul dipengaruhi oleh jenis perangkap yang dipasang dan keadaan persekitaran di ladang kelapa. Penyelidikan ini membantu membuat penilaian terhadap bionomik, kepadatan dan kepelbagaian bagi spesies nyamuk di ladang kelapa Bahagian Samarahan.

Kata kunci: *bionomik jentik-jentik nyamuk, nyamuk biak takungan, perangkap nyamuk buah kelapa, nyamuk ladang kelapa*