

**PRELIMINARY INVENTORY OF MOSQUITO DIVERSITY IN THE
KALMUNAI REGION AND FACULTY OF APPLIED SCIENCES, SEUSL**

S. Thadsana^{a*} and W. Sudesh Udayakantha^a

^aDepartment of Biological Sciences, Faculty of Applied Sciences, South Eastern University of Sri Lanka, Sammanthurai, Sri Lanka.

*sudesh@seu.ac.lk

Abstract

Mosquitoes are important vectors of many communicable diseases such as dengue, chikungunya, lymphatic filariasis, and malaria. Assessing mosquito species diversity in specific ecological settings is important for effective surveillance and vector management. The present study investigated mosquito diversity for the first time in two localities of the Ampara District, Sri Lanka. Kalmunai town area and the premises of the Faculty of Applied Sciences, South Eastern University of Sri Lanka, Sammanthurai from 1st November 2024 to 1st April 2025. Ovitrap were prepared using 250 ml plastic cups, half-filled with paddy straw infusions at four concentrations, 100%, 75%, 50%, and 25%, while distilled water served as the control. A small wooden stick was placed in each trap to facilitate oviposition. Ten households in Kalmunai and six localities within the university premises were selected, with five Ovitrap (one for each treatment) deployed at each site. Traps were retrieved after 14 days, and eggs and larvae were incubated under controlled laboratory conditions. Emerging adults were identified to the lowest possible taxonomic level using taxonomic keys. Species richness and relative abundance were analyzed statistically using Shannon–Wiener diversity indices. Nineteen mosquito species belonging to four genera, *Aedes*, *Anopheles*, *Culex*, and *Mansonia*, were observed in the Kalmunai region, with *Aedes aegypti* and *Aedes albopictus* being the most abundant species. In the Faculty area, five species were recorded, with *Aedes aegypti* dominant, followed by *Aedes albopictus* and *Mansonia uniformis*. The species documented during the study, *Aedes aegypti*, *A. albopictus*, *A. vittatus*, *A. macdougalli*, *A. flavipes*, *A. dorsalis*, *A. lankaensis*, *A. lineatopennis*, *A. vexans*, *A. seculatus*, *A. krombeini*, *Anopheles culicifacies*, *A. subpictus*, *A. varuna*, *Culex quinquefasciatus*, *C. gelidus*, *Mansonia uniformis*, and *M. indicus*, constitute the first preliminary inventory of mosquitoes for the region. The Shannon–Wiener diversity index values were 2.76 for the Kalmunai region and 1.48 for the Faculty premises, indicating higher species diversity in the former. *Aedes aegypti* (34–41%) and *Aedes albopictus* (28–33%) were the dominant species across both sites.

Keywords: Mosquito Diversity, *Aedes aegypti*, *Aedes albopictus*, Ovitrap