Title : A Study of the Order Proportion of Terrestrial Insects and Aquatic Insects in the Yom River and Lentic Ecosystems at Chiang Mai University by Using the Portable Light Trap.

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ABSTRACT

A portable light trap is an important tool in entomology. This trap is designed to collect natural insects for researches. This study aimed to study the use of a portable light trap for surveying the proportion of insect orders, comparing terrestrial and aquatic insects in the Yom River, Phrae province, which represents a lotic ecosystem, and two reservoirs at Chiang Mai University, which represents a lentic ecosystem. The study was conducted from June 2025 to January 2026. In the lotic ecosystem, three sampling sites were established along the Yom River: Agriculture Learning Center, Nong Chan temple, and Kad Rim Nam Park. A total of 15 insect orders were identified. At the Agriculture Learning Center site, one night of light trapping yielded 1,779 individuals. The most abundant order was Coleoptera (30.10%), followed by Diptera (17.8%) and Lepidoptera (14.53%). At Nong Chan temple, one night of light trapping yielded 5,915 individuals. Coleoptera was the most abundant order (43.65%), followed by Hymenoptera (26.85%) and Hemiptera (13.08%). At Kad Rim Nam Park, one night of light trapping yielded 832 individuals. Hymenoptera was the most abundant order (40.98%), followed by Hemiptera (12.62%) and Coleoptera (11.78%). Overall, insects found in the lotic ecosystem were predominantly terrestrial insects. In the lentic ecosystem, two sampling sites were established at Chiang Mai University: Ang Kaew Reservoir and Palm Garden Pond. A total of 8

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insect orders were identified. At Ang Kaew Reservoir, one night of light trapping yielded 45 individuals. Diptera was the most abundant order (46.67%), followed by Trichoptera (15.56%) and Lepidoptera (13.33%). At the Palm Garden Pond site, one night of light trapping yielded 374 individuals. Trichoptera was the most abundant order (56.95%), followed by Ephemeroptera (19.79%) and Diptera (13.10%). Overall, insects found in the lentic ecosystem were predominantly aquatic insects. In conclusion, this study demonstrated that portable light traps could collect insects from 15 out of the total 32 insect orders and are suitable for sampling adult aquatic insects and terrestrial insects inhabiting areas near water sources.

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