

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – PUKASKWA NATIONAL PARK

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Results

A total of 2,855 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Pukaskwa National Park. Over half the BINs captured were flies (Diptera), followed by bees, ants and wasps (Hymenoptera), moths and butterflies (Lepidoptera), and true bugs (Hemiptera; Figure 1).

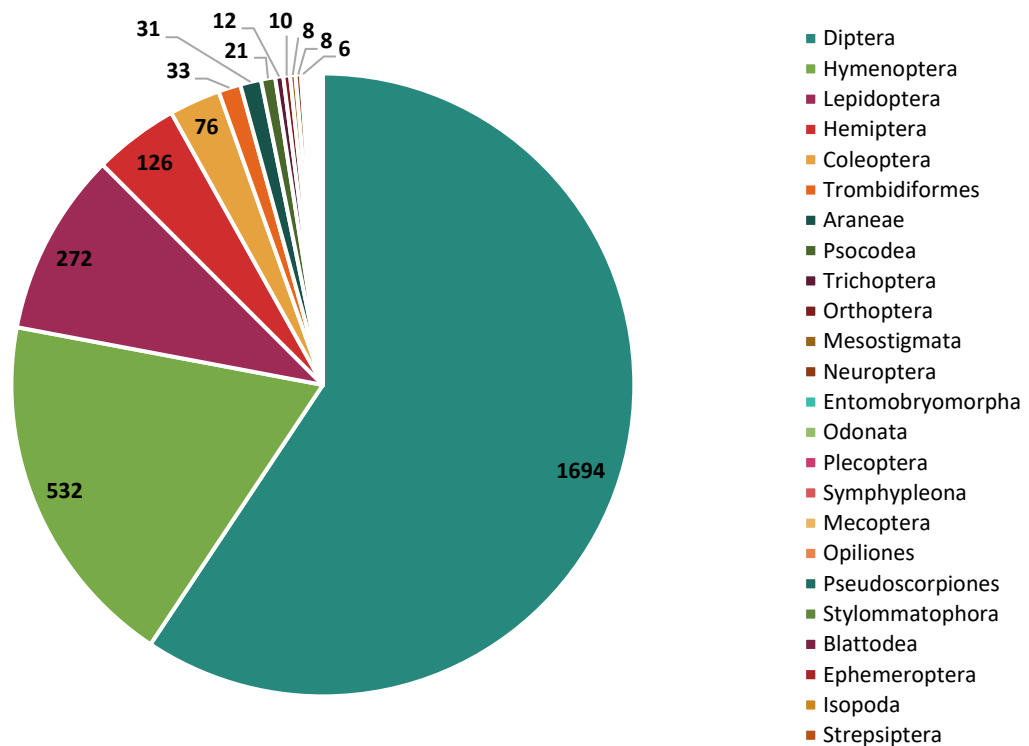


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Pukaskwa National Park.

Species diversity and insect abundance varied throughout the collecting period; the period that captured the most BINs was not necessarily the largest sample collected (Figure 2). The peak of species diversity was obtained towards the end of July.

In total, 739 species were named, representing 28% of the BINs. All but one of the BINs were assigned at least to family and 72% of the BINs were assigned to a genus. Specimens collected from this site represent 224 different families and 869 genera. A complete species list is attached separately.

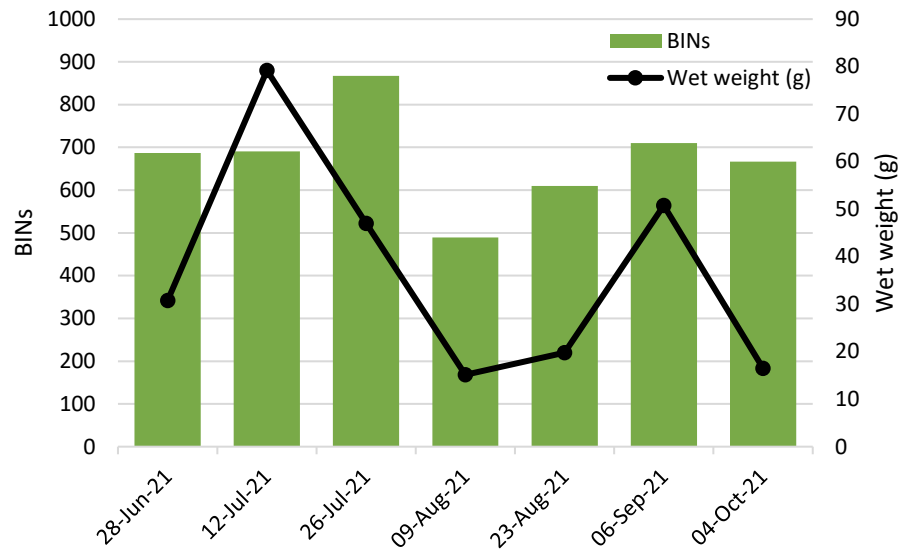


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of sample) captured at the trap over the 2021 collecting period.

In combination with the barcoding results from the 2013 sampling, a grand total of 5,755 BINs have been captured at Pukaskwa National Park. There was an overlap of 899 BINs between both sampling years and the 2021 trap added 1,956 BINs to the total species pool (Figure 3).

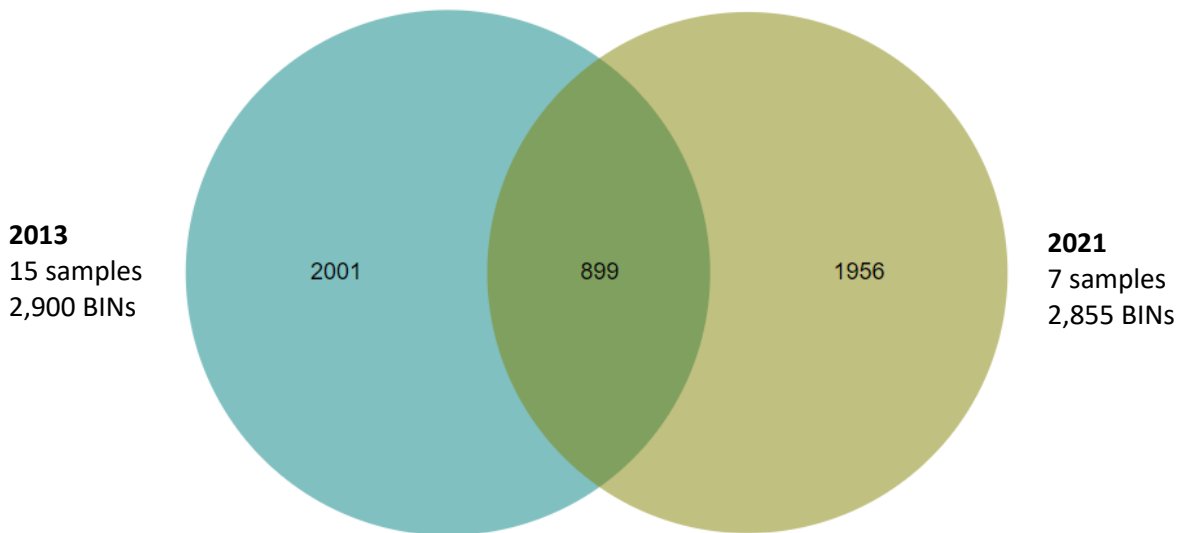


Figure 3. Venn diagram showing the species overlap between the 2013 and 2021 traps.