

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – BAYVIEW ESCARPMENT

Collections Unit, Centre for Biodiversity Genomics (CBG), University of Guelph

Results

A total of 2,353 different BINs (Barcode Index Numbers; a proxy for species) were encountered Bayview Escarpment Provincial Nature Reserve. About half the BINs captured were flies (Diptera), followed by bees, ants and wasps (Hymenoptera), moths and butterflies (Lepidoptera), and true bugs (Hemiptera; Figure 1).

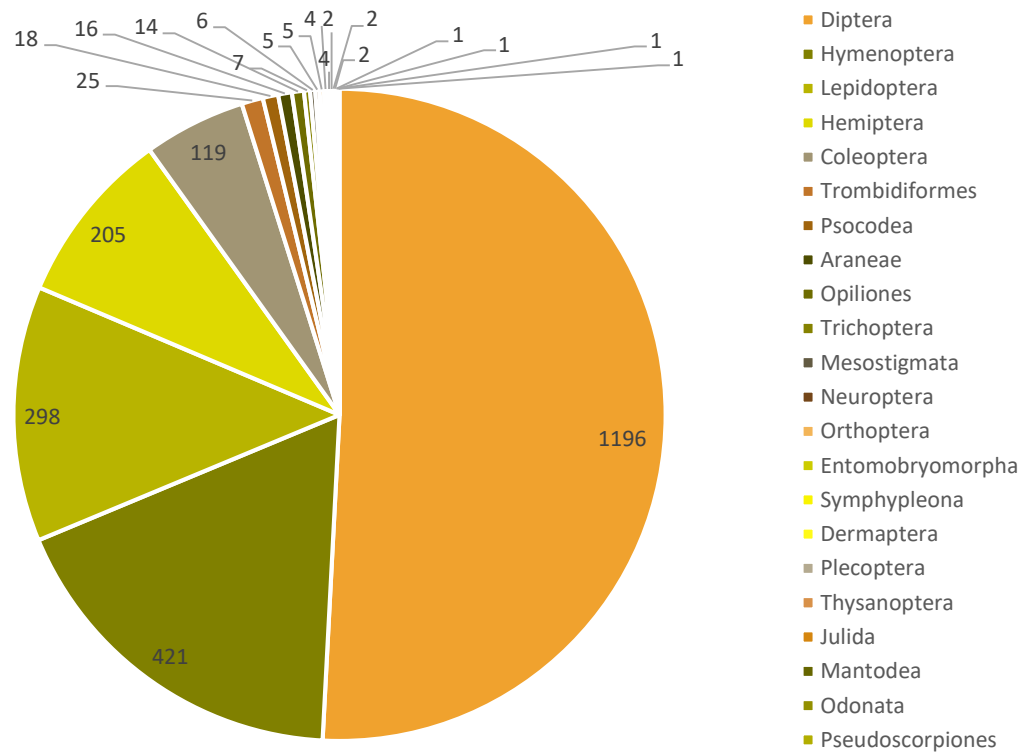


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Bayview Escarpment.

Species diversity and insect abundance varied throughout the collecting period; the period that captured the most BINs was also the largest sample collected (Figure 2). The peak of species diversity was obtained in mid-June.

In total, 708 species were named, representing 33% of the BINs. All but six of the BINs were assigned at least to family and 70% were assigned to a genus. Specimens collected from this site represent 233 different families and 834 genera. A complete species list is attached separately.

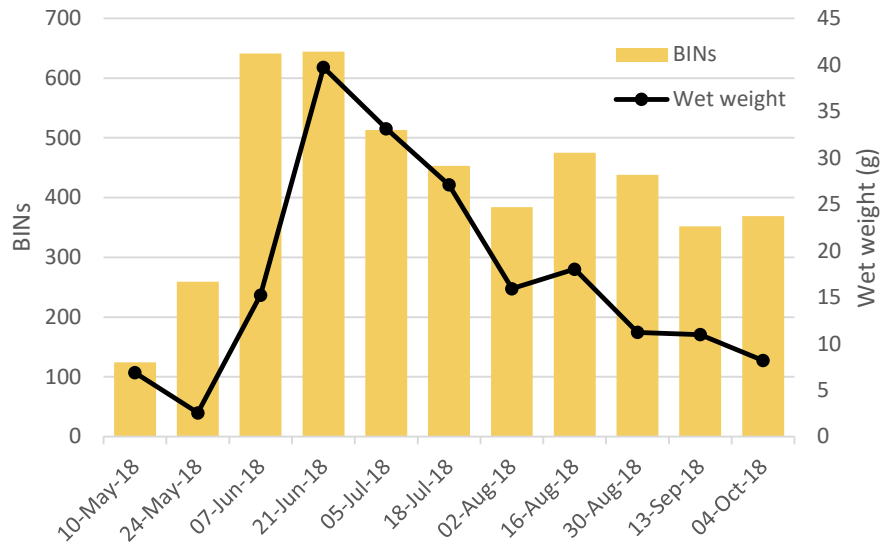


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of the sample) captured at the trap over the 2018 collecting period.

In combination with the OPP Malaise Program run in 2014, a grand total of 4,903 BINs have been captured from Bayview Escarpment. There was an overlap of 1,339 BINs between both sampling years and the 2018 Mixedwood Plains trap added 1,014 BINs to the total species pool (Figure 3).

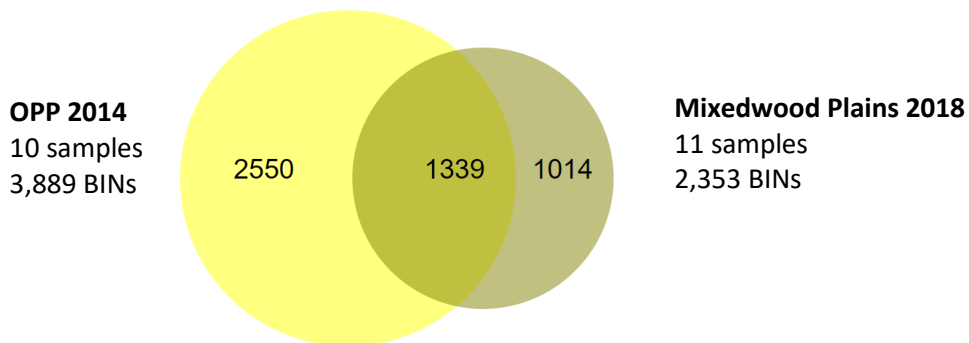


Figure 3. Venn diagram showing the species overlap between the 2014 and 2018 Malaise trapping projects.

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Funding provided by:



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