

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – FRONTENAC

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

Results

A total of 2,169 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Frontenac Provincial Park. Over half the BINs captured were flies (Diptera), followed by bees, ants and wasps (Hymenoptera), moths and butterflies (Lepidoptera), and beetles (Coleoptera; Figure 1).

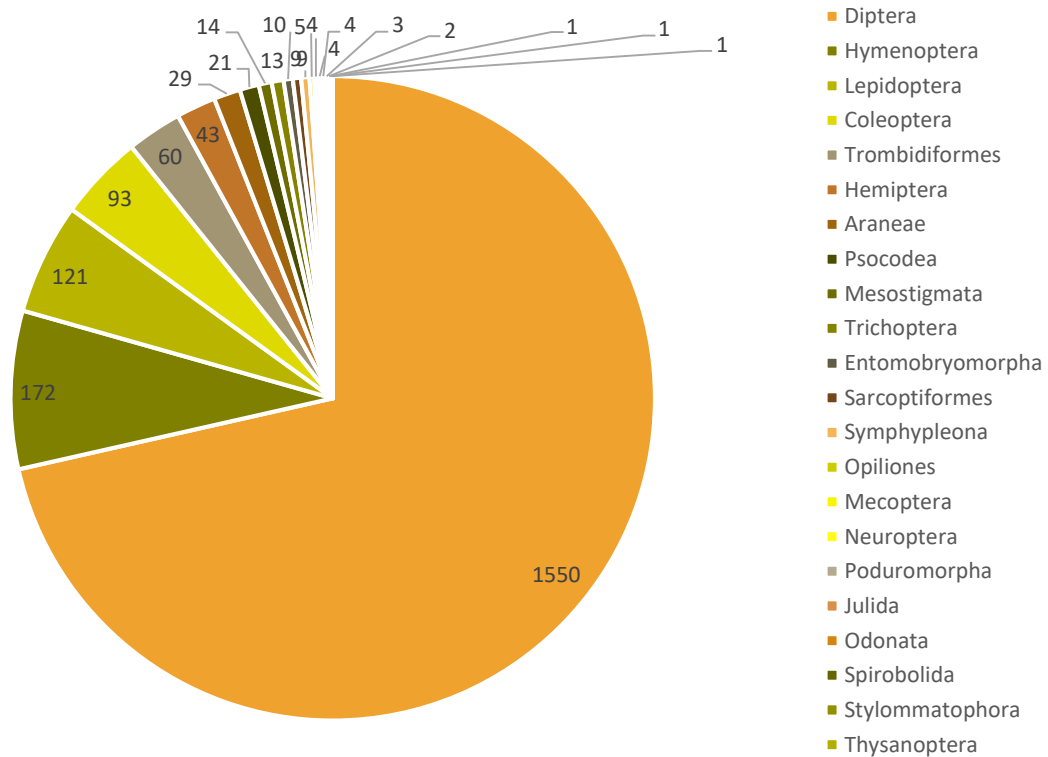


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Frontenac Provincial Park.

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 in June.

In total, 416 species were named, representing 21% of the BINs. All but three of the BINs were assigned at least to family and 54% were assigned to a genus. Specimens collected from this site represent 207 different families and 549 genera. A complete species list is attached separately.

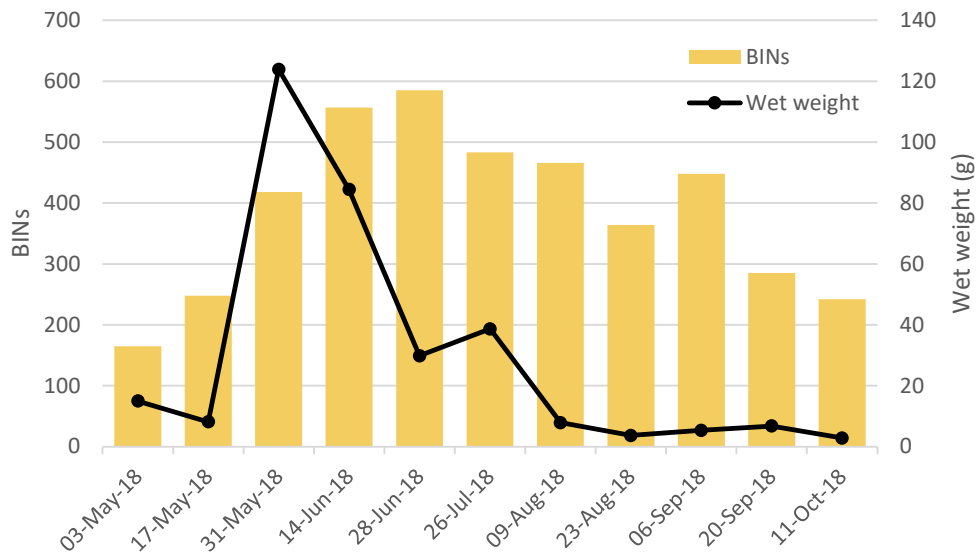


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of the sample) captured at the trap over the 2018 collecting period.

In combination with the OPP Malaise Program run in 2014, a grand total of 4,764 BINs have been captured from Frontenac. There was an overlap of 777 BINs between both sampling years and the 2018 Mixedwood Plains trap added 1,392 BINs to the total species pool (Figure 3).

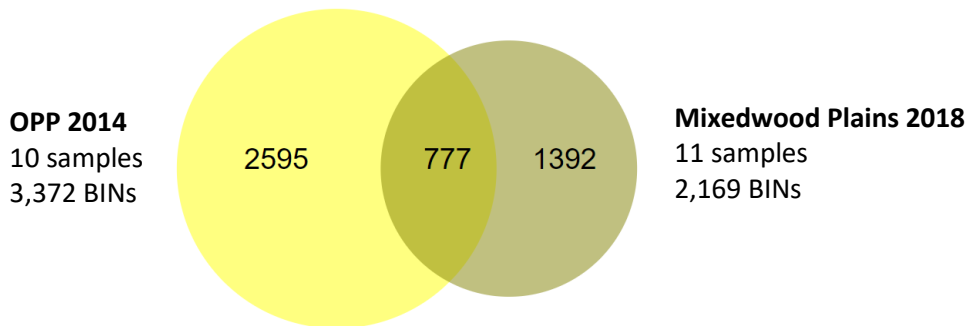


Figure 3. Venn diagram showing the species overlap between the 2014 and 2018 Malaise trapping projects.

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Funding provided by:



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