

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – HOPE BAY FOREST

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

Results

A total of 974 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Hope Bay Forest Provincial Nature Reserve (PNR). Nearly half the BINs captured were flies (Diptera), followed by bees, ants and wasps (Hymenoptera), moths and butterflies (Lepidoptera), and beetles (Coleoptera; Figure 1).

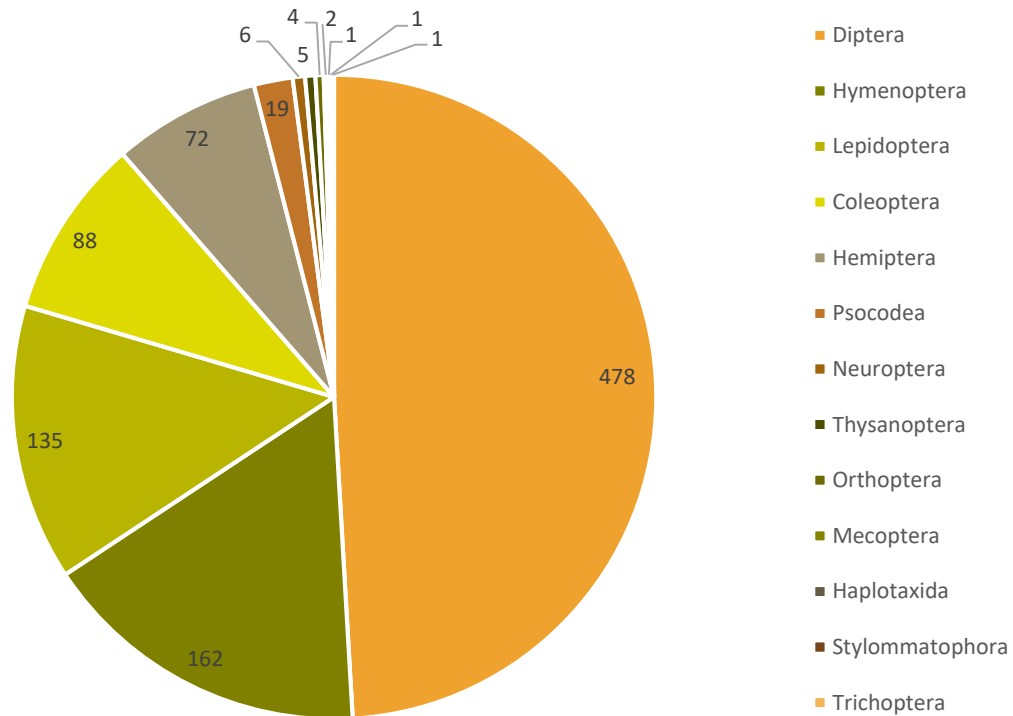


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Hope Bay Forest PNR.

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 early June.

In total, 309 species were named, representing 34% of the BINs. All but three of the BINs were assigned at least to family and 70% were assigned to a genus. Specimens collected from this site represent 147 different families and 411 genera. A complete species list is attached separately.

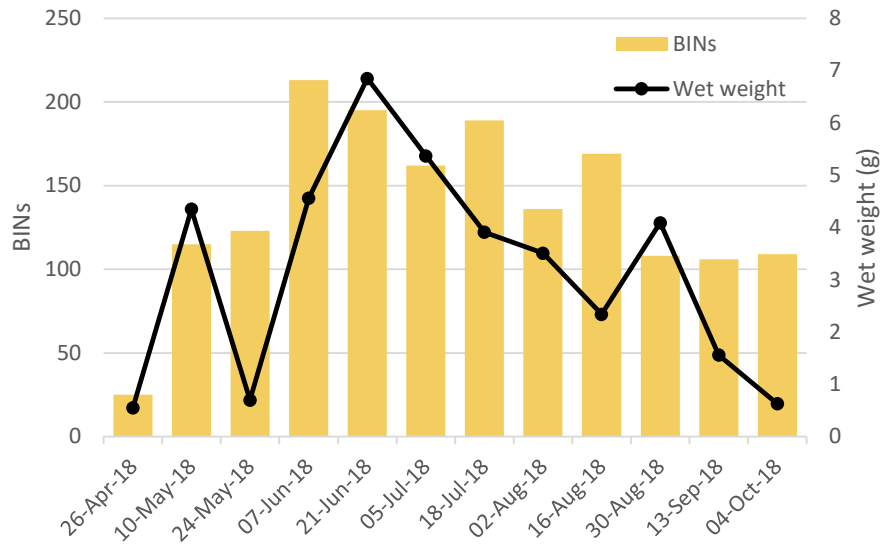


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of the sample) captured at the trap over the 2018 collecting period.

In combination with the OPP Malaise Program run in 2014, a grand total of 1,569 BINs have been captured from Hope Bay Forest. There was an overlap of 352 BINs between both sampling years and the 2018 Mixedwood Plains trap added 622 BINs to the total species pool (Figure 3).

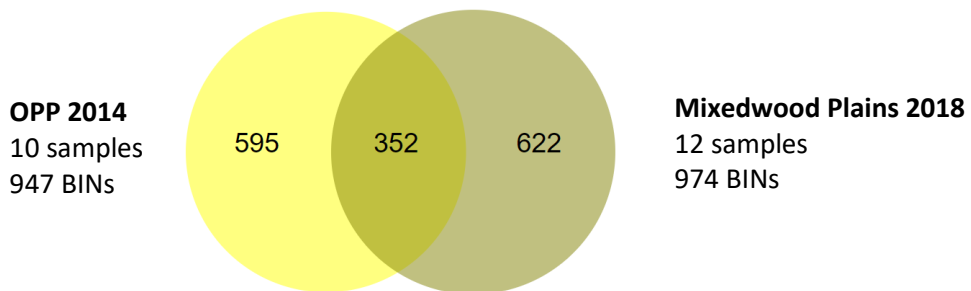


Figure 3. Venn diagram showing the species overlap between the 2014 and 2018 Malaise trapping projects.

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Funding provided by:



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