

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – MURPHY’S POINT

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

Results

A total of 2,437 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Murphy’s Point 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).

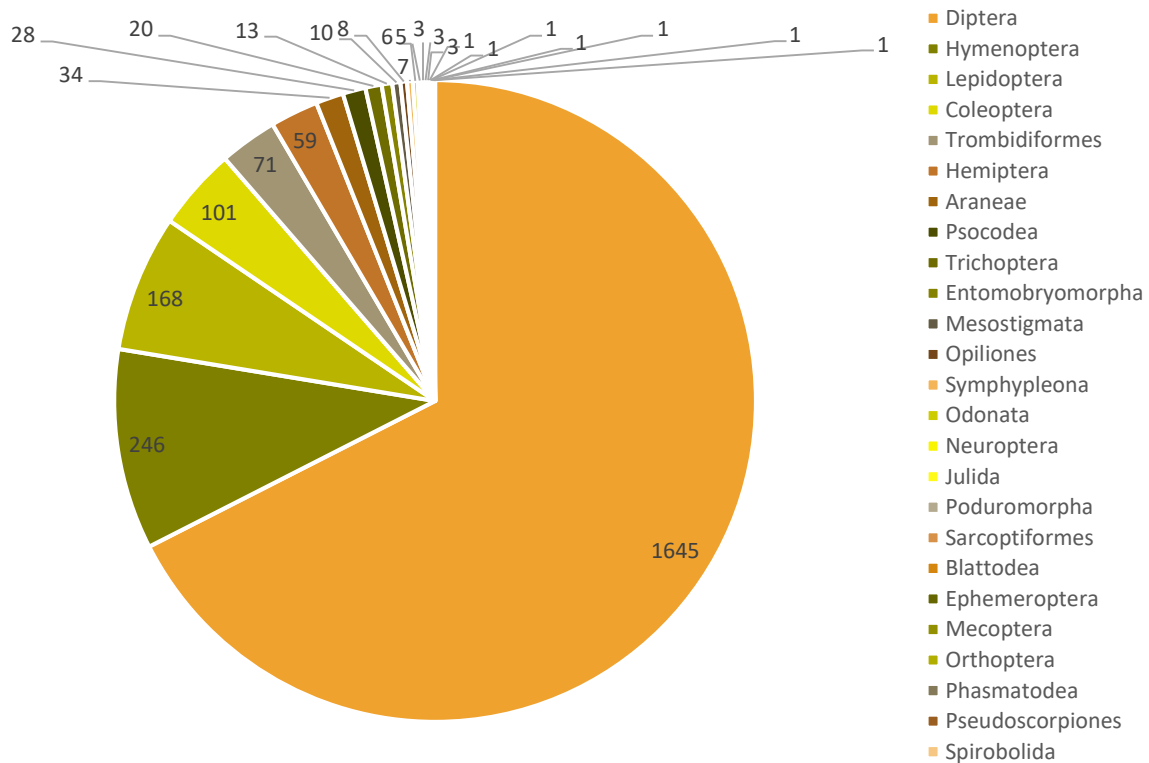


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Murphy’s Point Provincial Park.

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, 489 species were named, representing 22% of the BINs. All but four of the BINs were assigned at least to family and 55% were assigned to a genus. Specimens collected from this site represent 210 different families and 659 genera. A complete species list is attached separately.

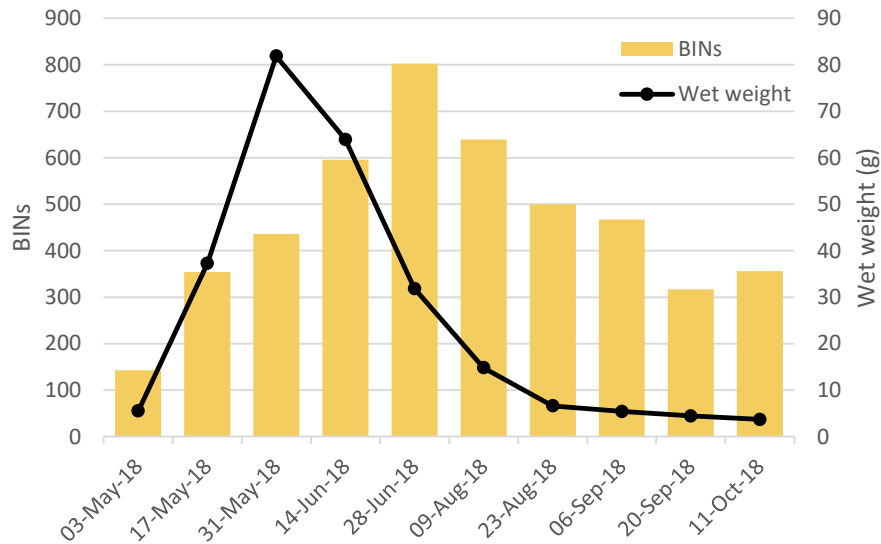


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of the sample) captured at the trap over the 2018 collecting period.

In combination with the OPP Malaise Program run in 2014, a grand total of 5,495 BINs have been captured from Murphy’s Point. There was an overlap of 1,433 BINs between both sampling years and the 2018 Mixedwood Plains trap added 1,004 BINs to the total species pool (Figure 3).

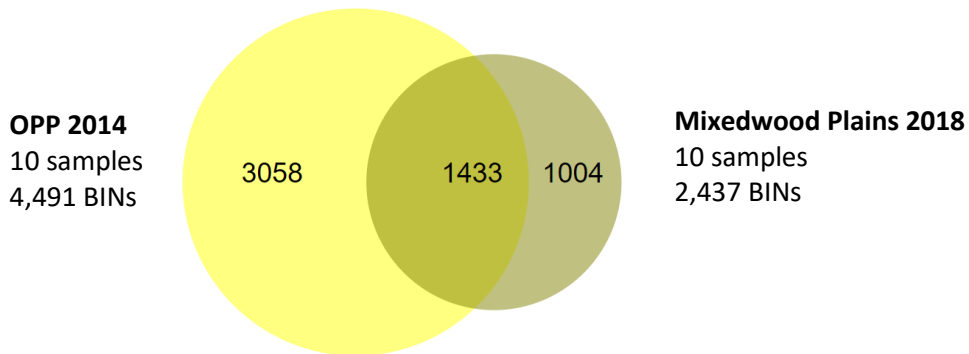


Figure 3. Venn diagram showing the species overlap between the 2014 and 2018 Malaise trapping projects.

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