December 2020

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – AWENDA

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

Results

A total of 1,223 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Awenda Provincial Park. Over half the BINs captured were flies (Diptera), followed by moths and butterflies (Lepidoptera), beetles (Coleoptera) and bees, ants and wasps (Hymenoptera; Figure 1).

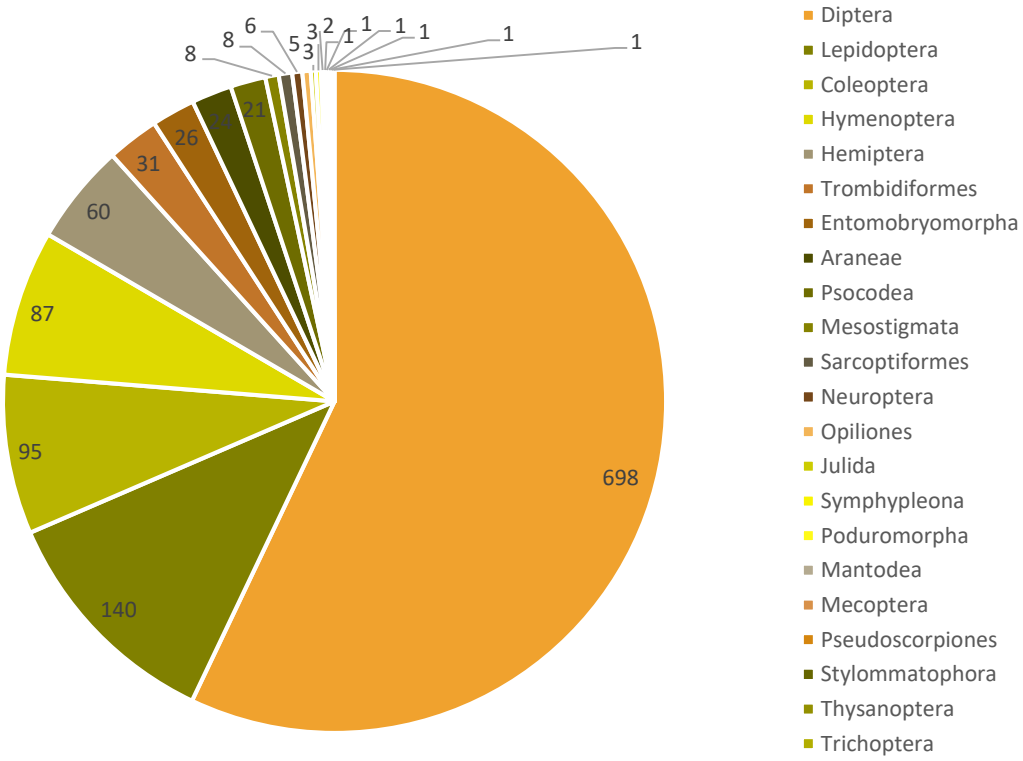

Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Awenda Provincial Park.

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 towards the end of June.

In total, 321 species were named, representing 29% of the BINs. All but two of the BINs were assigned at least to family and 59% were assigned to a genus. Specimens collected from this site represent 186 different families and 411 genera. A complete species list is attached separately.

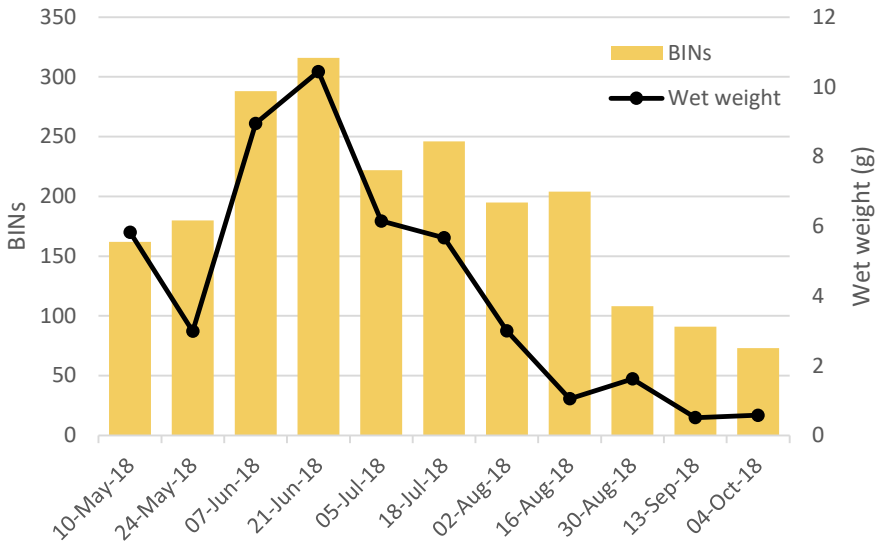

Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of the sample) captured at the trap over the 2018 collecting period.

In combination with the OPP Malaise Program run in 2014, a grand total of 3,718 BINs have been captured from Awenda. There was an overlap of 534 BINs between both sampling years and the 2018 Mixedwood Plains trap added 689 BINs to the total species pool (Figure 3).

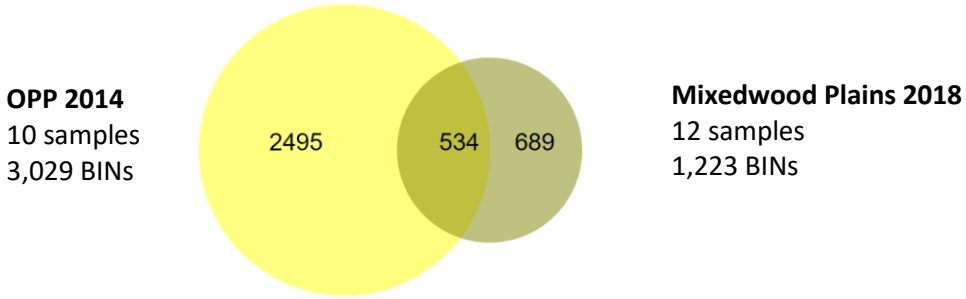

Figure 3. Venn diagram showing the species overlap between the 2014 and 2018 Malaise trapping projects.

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