

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – BOYNE VALLEY

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

Results

A total of 2,834 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Boyne Valley Provincial Park. Just over half the BINs captured were flies (Diptera), followed by bees, ants and wasps (Hymenoptera), moths and butterflies (Lepidoptera), and true bugs (Hemiptera; Figure 1).

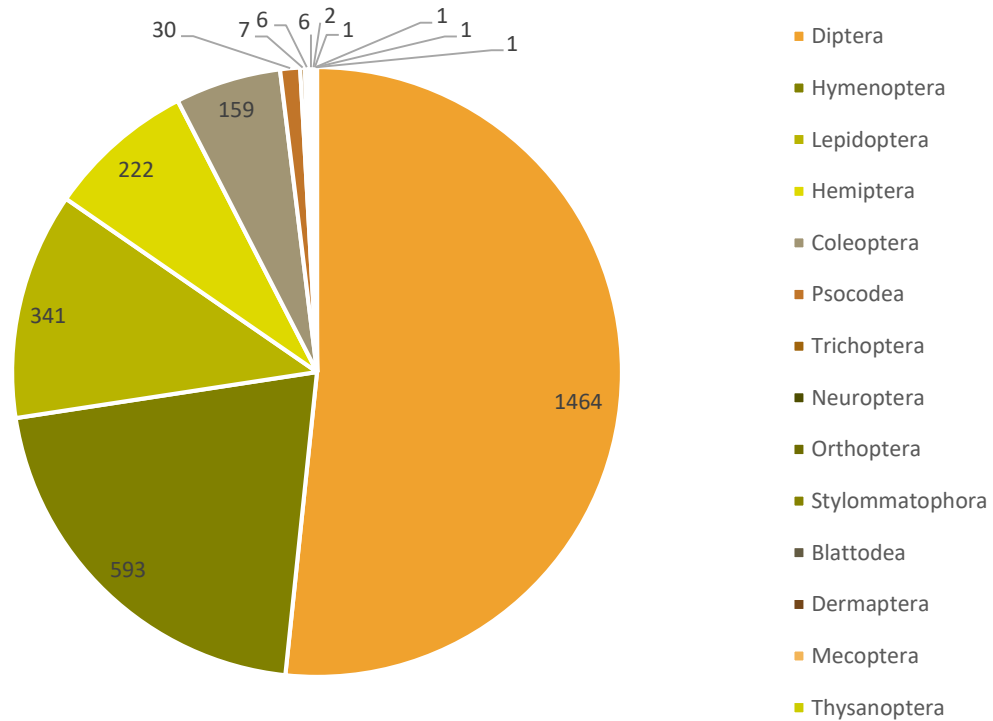


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Boyne Valley Provincial Park.

Species diversity and insect abundance varied throughout the collecting period; the periods that captured the most BINs were not the largest samples collected (Figure 2). The peak of species diversity was obtained in late July.

In total, 803 species were named, representing 31% of the BINs. All but five of the BINs were assigned at least to family and 68% were assigned to a genus. Specimens collected from this site represent 215 different families and 921 genera. A complete species list is attached separately.

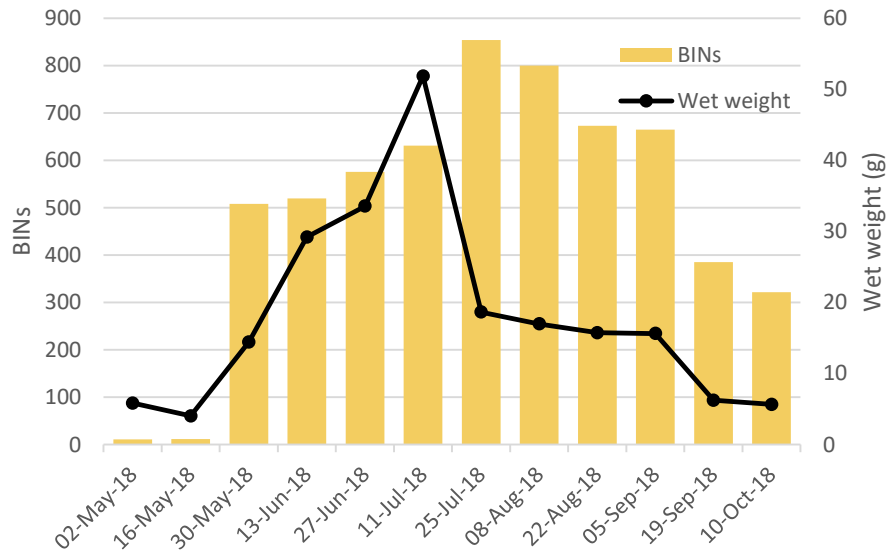


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of the sample) captured at the trap over the 2018 collecting period.

In combination with the OPP Malaise Program run in 2014, a grand total of 3,650 BINs have been captured from Boyne Valley. There was an overlap of 755 BINs between both sampling years and the 2018 Mixedwood Plains trap added 2,079 BINs to the total species pool (Figure 3).

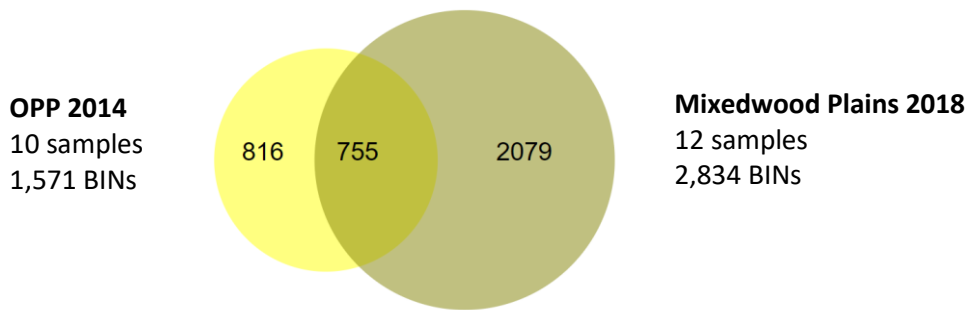


Figure 3. Venn diagram showing the species overlap between the 2014 and 2018 Malaise trapping projects.

Contact Information

Jeremy deWaard, PhD
 Director - Collections
dewaardj@uoguelph.ca

Kate Perez, MSc
 Field Operations Lead – Collections
kperez@uoguelph.ca



University of Guelph
 50 Stone Road East, Guelph, ON,
 Canada N1G 2W1
www.biodiversitygenomics.net

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