

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – MONTS-VALIN

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

Results

A total of 2,634 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Monts-Valin National Park. 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).

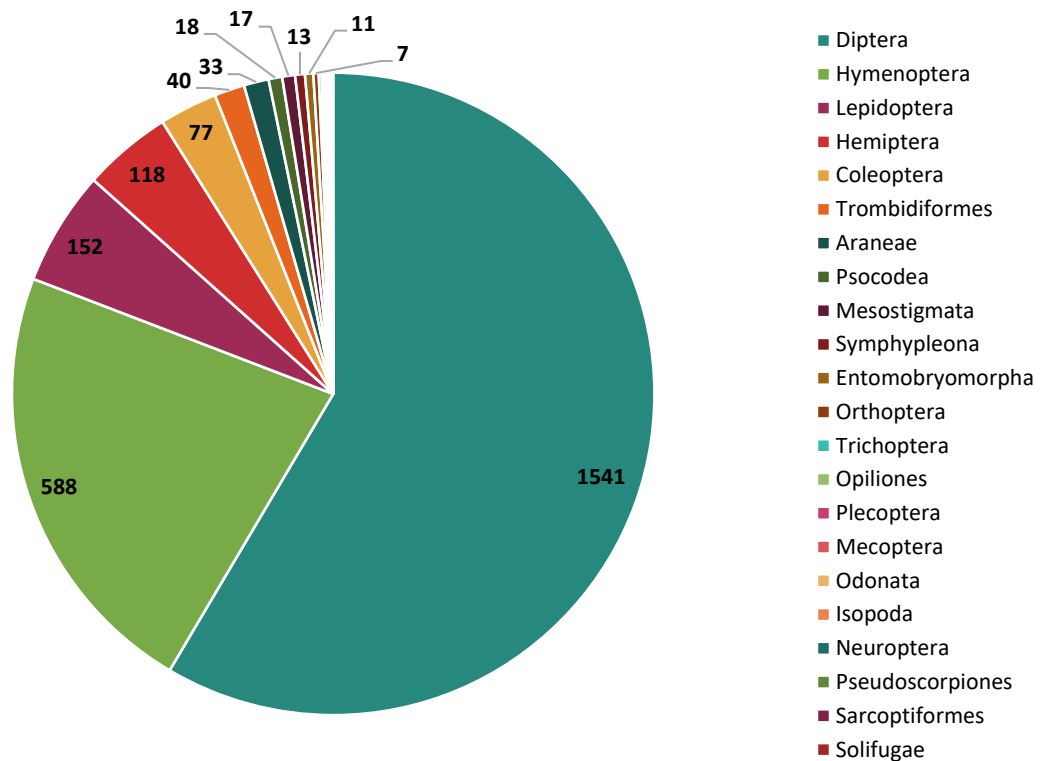


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Monts-Valin National Park.

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 towards the end of August.

In total, 616 species were named, representing 23% of the BINs. All but two of the BINs were assigned at least to family and 65% of the BINs were assigned to a genus. Specimens collected from this site represent 220 different families and 774 genera. A complete species list is attached separately.

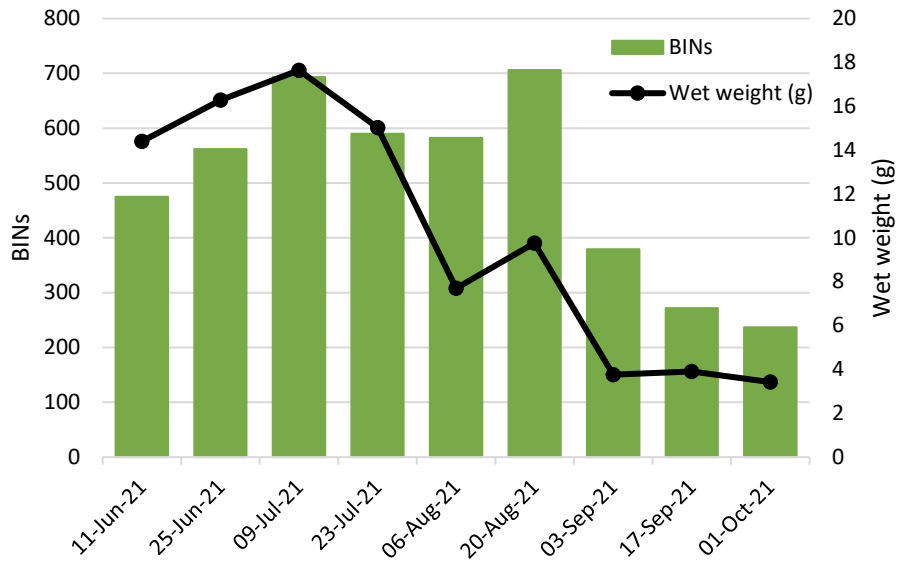


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of sample) captured at the trap over the 2021 collecting period.

In combination with the metabarcoding results from the 2020 sampling, a grand total of 4,011 BINs have been captured from Monts-Valin National Park. There was an overlap of 1,400 BINs between both sampling years and the 2021 trap added 1,234 BINs to the total species pool (Figure 3).

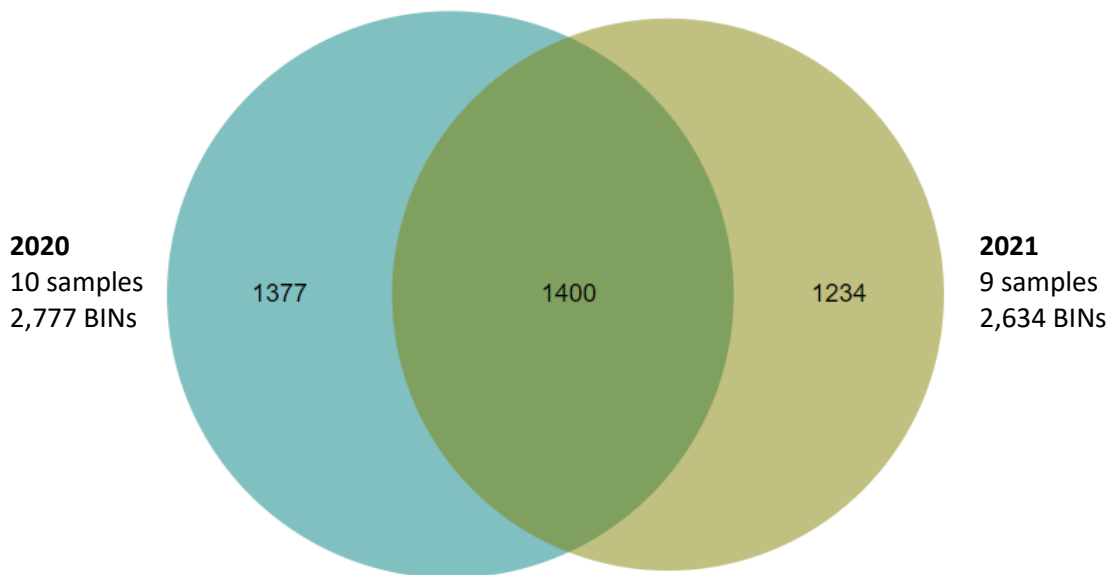


Figure 3. Venn diagram showing the species overlap between the 2020 and 2021 traps.