

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – JACQUES-CARTIER 1

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Results

A total of 4,251 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Site 1 in Jacques-Cartier National 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).

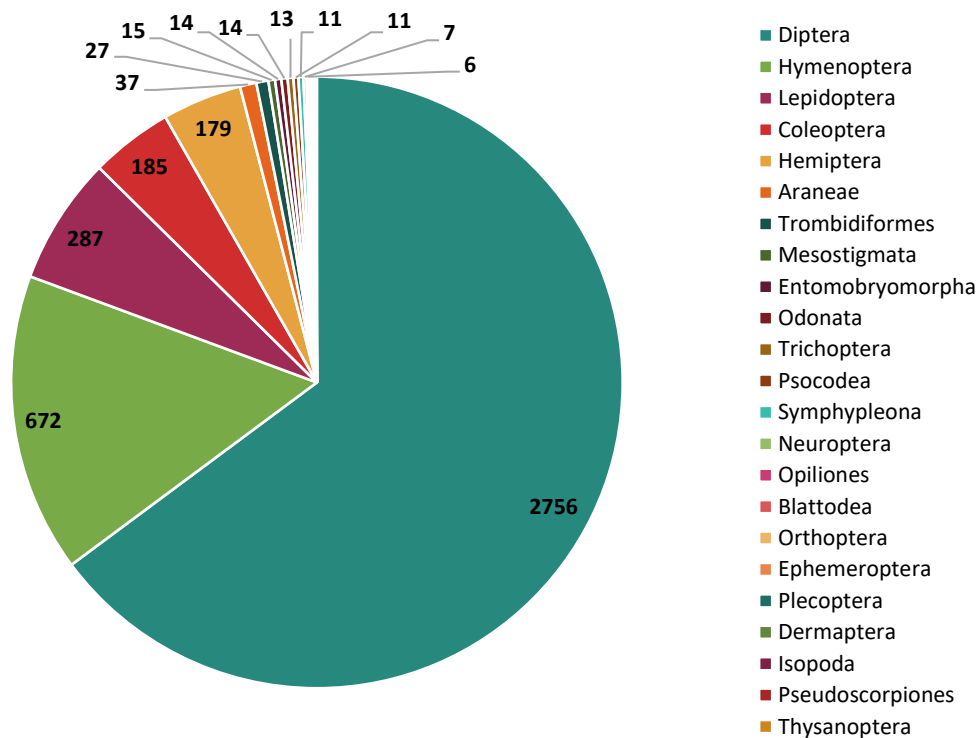


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Site 1 in Jacques-Cartier National Park.

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, 1,099 species were named, representing 26% of the BINs. All but two of the BINs were assigned at least to family and 69% of the BINs were assigned to a genus. Specimens collected from this site represent 274 different families and 1,166 genera. A complete species list is attached separately.

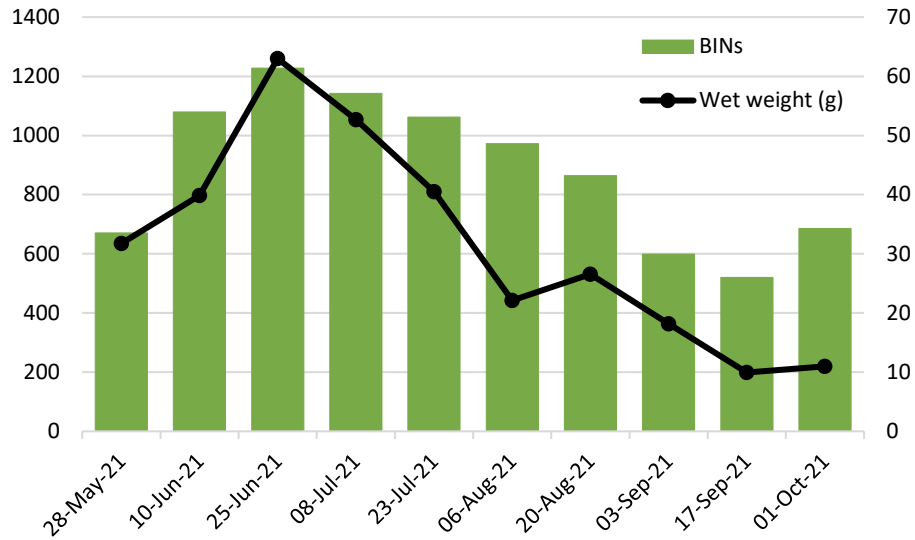


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of sample) captured at the trap over the 2021 collecting period.

In combination with the metabarcoding results from the 2020 sampling, a grand total of 5,585 BINs have been captured from Site 1 in Jacques-Cartier National Park. There was an overlap of 2,170 BINs between both sampling years and the 2021 trap added 2,081 BINs to the total species pool (Figure 3).

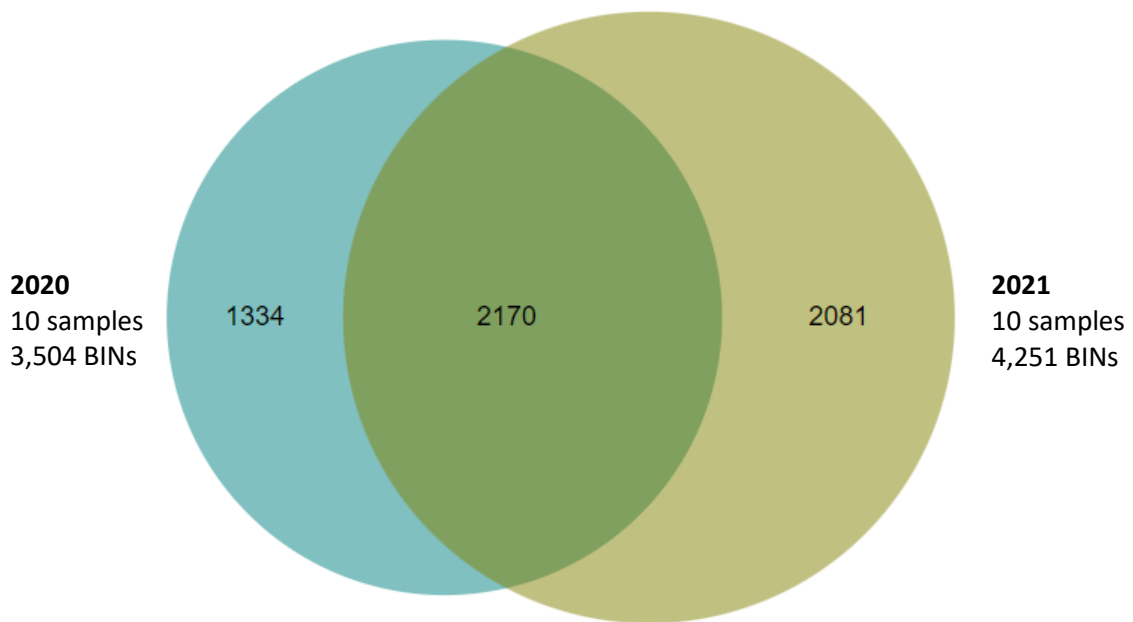


Figure 3. Venn diagram showing the species overlap between the 2020 and 2021 traps.