

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – JACQUES-CARTIER 2

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Results

A total of 2,135 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Site 2 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 true bugs (Hemiptera; Figure 1).

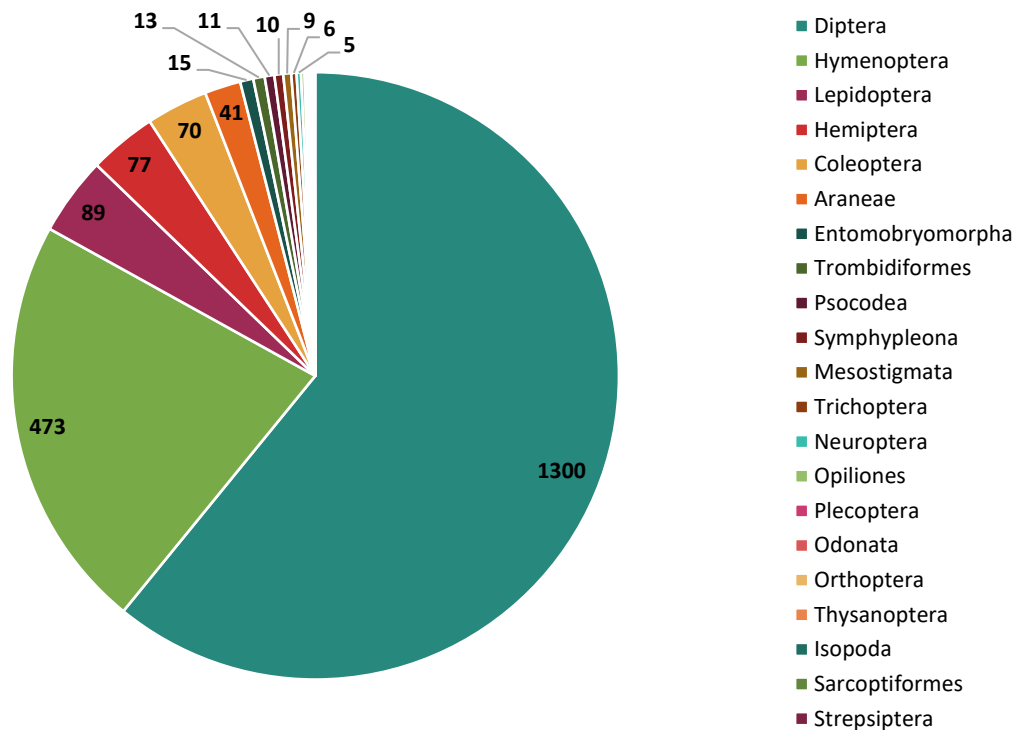


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Site 2 in Jacques-Cartier National Park.

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 July.

In total, 542 species were named, representing 25% of the BINs. All but three of the BINs were assigned at least to family and 73% of the BINs were assigned to a genus. Specimens collected from this site represent 187 different families and 664 genera. A complete species list is attached separately.

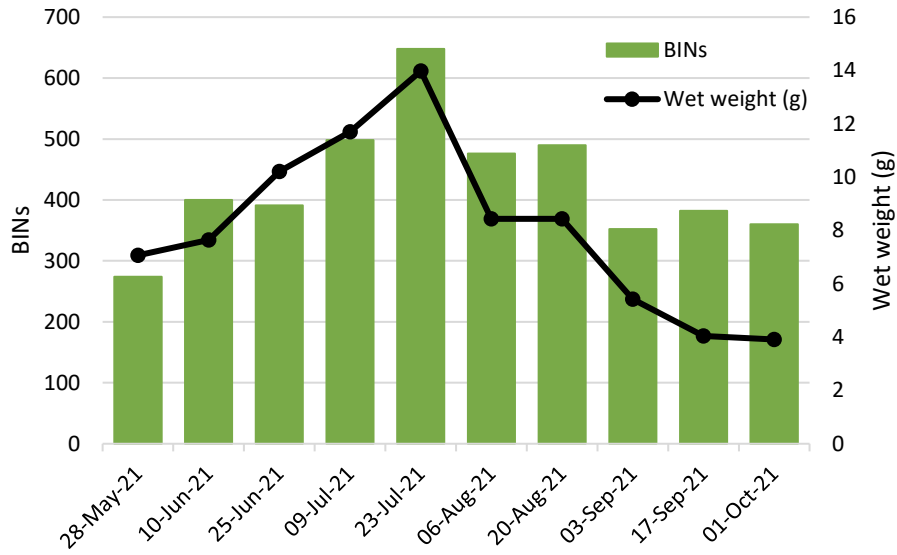


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of sample) captured at the trap over the 2021 collecting period.

In combination with the metabarcoding results from the 2020 sampling, a grand total of 2,936 BINs have been captured from Site 2 in Jacques-Cartier National Park. There was an overlap of 1,056 BINs between both sampling years and the 2021 trap added 1,079 BINs to the total species pool (Figure 3).

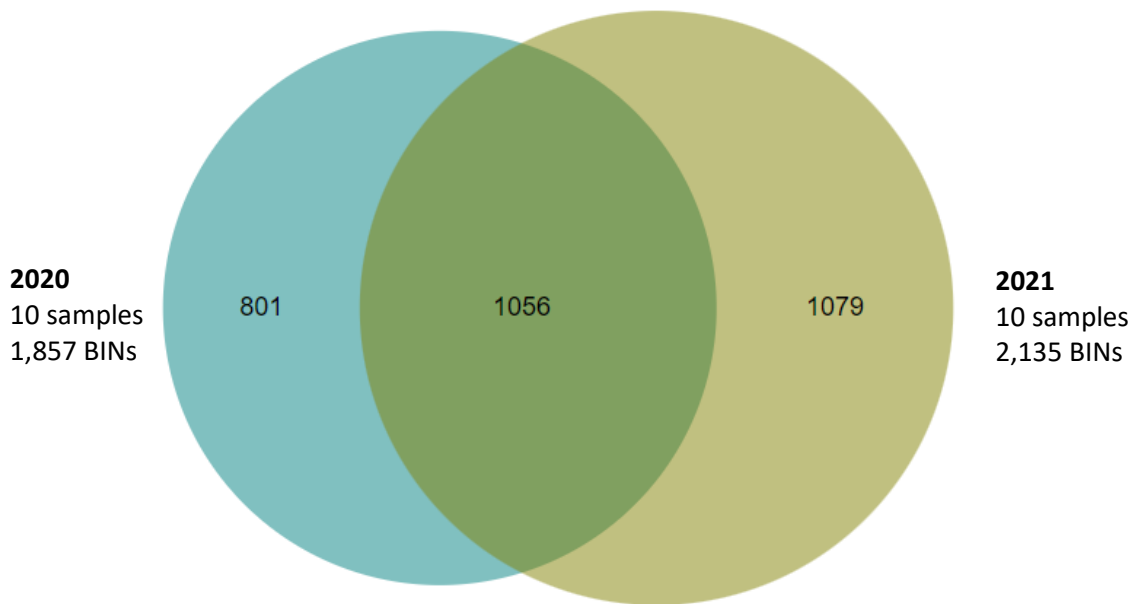


Figure 3. Venn diagram showing the species overlap between the 2020 and 2021 traps.