

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – OPÉMICAN

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Results

A total of 2,598 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Opémican National Park. Over half the BINs captured were flies (Diptera), followed by bees, ants and wasps (Hymenoptera), beetles (Coleoptera), and moths and butterflies (Lepidoptera; Figure 1).

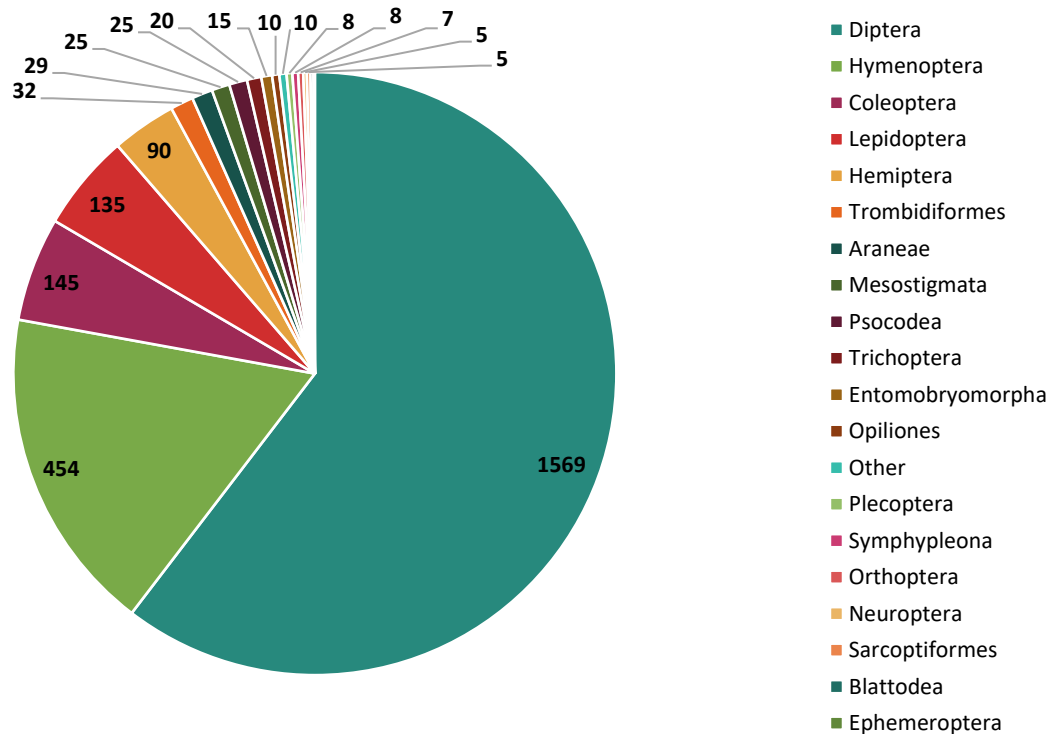


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Opémican National Park.

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 middle of June.

In total, 591 species were named, representing 23% of the BINs. All but one of the BINs were assigned at least to family and 61% of the BINs were assigned to a genus. Specimens collected from this site represent 249 different families and 750 genera. A complete species list is attached separately.

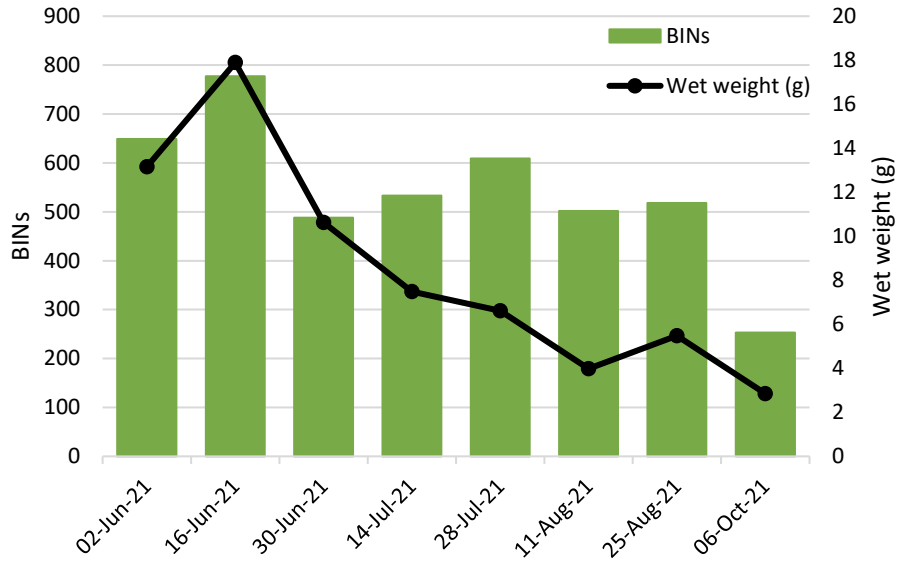


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of sample) captured at the trap over the 2021 collecting period.

In combination with the metabarcoding results from the 2020 sampling, a grand total of 3,571 BINs have been captured from Opémican National Park. There was an overlap of 1,056 BINs between both sampling years and the 2021 trap added 1,542 BINs to the total species pool (Figure 3).

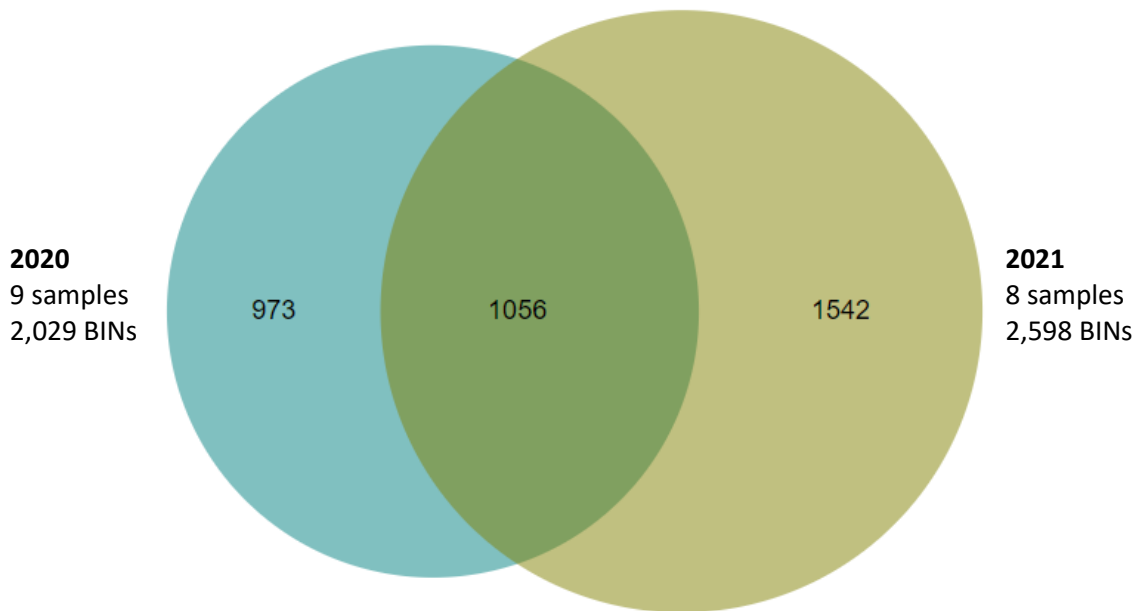


Figure 3. Venn diagram showing the species overlap between the 2020 and 2021 traps.