

TERRESTRIAL ARTHROPOD MONITORING PROGRAM

METABARCODING REPORT – AIGUEBELLE

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

Results

A total of 3,993 different BINs (Barcode Index Numbers; a proxy for species) were encountered at Aiguebelle 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).

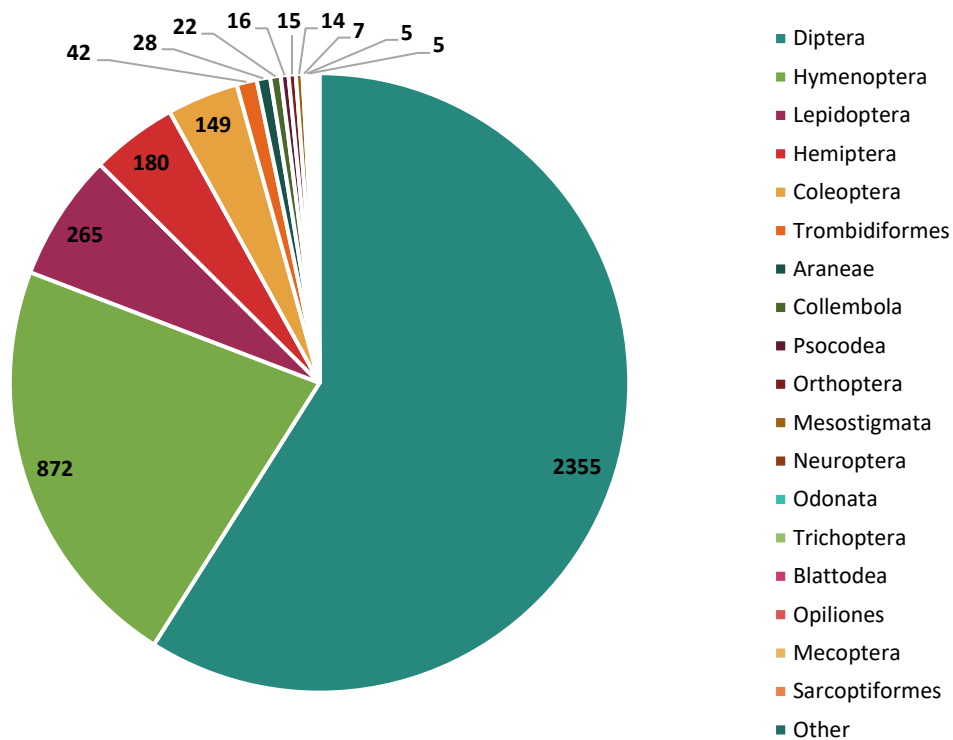


Figure 1. Taxonomic breakdown of BINs captured in the Malaise trap at Aiguebelle National Park.

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 July.

In total, 859 species were named, representing 22% of the BINs. All but five of the BINs were assigned at least to family and 64% of the BINs were assigned to a genus. Specimens collected from this site represent 270 different families and 1,026 genera. A complete species list is attached separately.

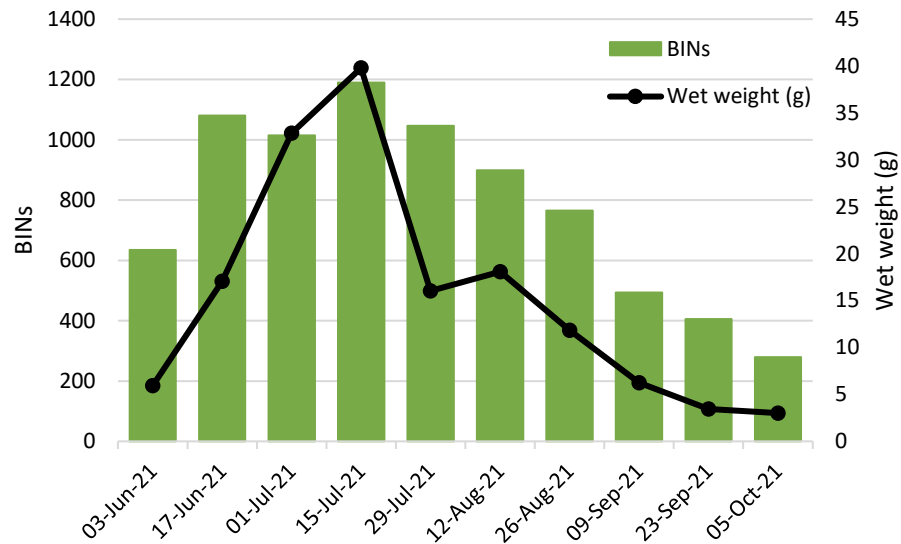


Figure 2. Species diversity (measured by BINs) and approximate insect abundance (measured by wet weight of sample) captured at the trap over the 2021 collecting period.

In combination with the metabarcoding results from the 2020 sampling, a grand total of 4,985 BINs have been captured from Aiguebelle National Park. There was an overlap of 1,567 between both sampling years and the 2021 trap added 2,426 BINs to the total species pool (Figure 3).

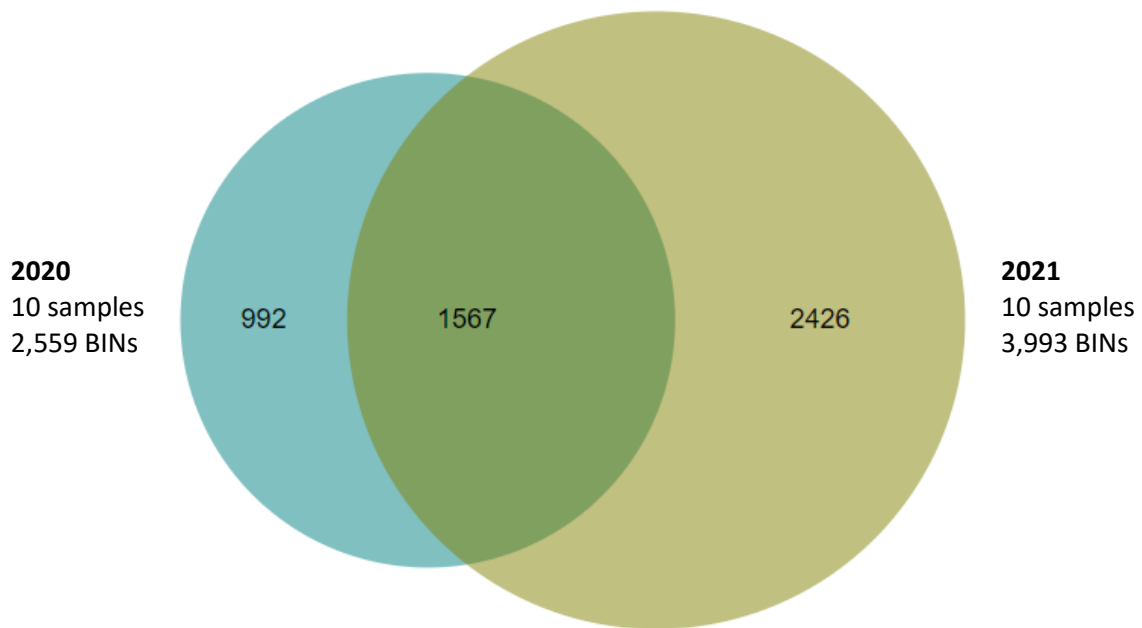


Figure 3. Venn diagram showing the species overlap between the 2020 and 2021 traps.