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| **Table X.** Frequency of occurrence (%) of 21 prey species identified in the diets of black-throated blue warblers by survey period at the Hubbard Brook Experimental Forest, New Hampshire, USA. Each line represents a different species, identified to the highest taxonomic rank possible from the Barcode of Life Database (BOLD). | | | | | | | | | |
|  |  |  |  |  |  |  | **Survey Period** | | |
|  |  |  |  |  |  | **Total** | **Early** | **Mid** | **Late** |
| **Phylum** | **Class** | **Order** | **Family** | **Species** | **Common Name** | ***n* = 99** | ***n* = 29** | ***n* = 34** | ***n* = 36** |
| Arthropoda | Insecta | Lepidoptera | Notodontidae | *Heterocampa guttivitta* | Saddled prominent moth | 79 | 83.3 | 100 | 87.5 |
| Arthropoda | Arachnida | Araneae | Theridiidae | *Theridion frondeum* | Eastern Long-legged cobweaver | 53 | 70.8 | 93.5 | 21.9 |
| Arthropoda | Arachnida | Araneae | Philodromidae | *Philodromus rufus* | Running Crab spider | 47 | 75.0 | 64.5 | 28.1 |
| Arthropoda | Insecta | - | - | *-* | Insect | 43 | 62.5 | 41.9 | 46.9 |
| Arthropoda | Insecta | Lepidoptera | - | - | Butterfly/Moth | 33 | 54.2 | 51.6 | 12.5 |
| Arthropoda | Arachnida | Araneae | Araneidae | *Cyclosa conica* | Conical trashline orbweaver | 33 | 70.8 | 32.3 | 18.8 |
| Arthropoda | Arachnida | Araneae | Dictynidae | *Emblyna maxima* | Cribellate araneomorph spider | 30 | 45.8 | 41.9 | 18.8 |
| Arthropoda | Insecta | Lepidoptera | Geometridae | *Orthofidonia exornata* | Geometrid moth | 28 | 4.2 | 25.8 | 59.4 |
| Arthropoda | - | - | - | - | Arthropod | 28 | 37.5 | 6.5 | 53.1 |
| Arthropoda | Insecta | Lepidoptera | Tortricidae | *Pandemis lamprosona* | Woodgrain leafroller moth | 27 | 33.3 | 51.6 | 9.4 |
| Arthropoda | Insecta | Lepidoptera | Geometridae | - | Geometrid moth | 26 | 4.2 | 25.8 | 53.1 |
| Arthropoda | Insecta | Diptera | Cecidomyiidae | - | Gall gnat | 25 | 37.5 | 29 | 21.9 |
| Arthropoda | Arachnida | Araneae | Tetragnathidae | *Tetragnatha shoshone* | Spider | 22 | 50.0 | 22.6 | 9.4 |
| Arthropoda | Insecta | Hemiptera | Miridae | *Deraecoris grandis* | Plant bug | 20 | 16.7 | 48.4 | 3.1 |
| Arthropoda | Arachnida | - | - | - | Spider | 20 | 12.5 | 12.9 | 40.6 |
| Arthropoda | Arachnida | Araneae | Linyphiidae | *Helophora insignis* | Sheetweb spider | 20 | 4.2 | 12.9 | 46.9 |
| Arthropoda | Arachnida | Araneae | Philodromidae | *Philodromus praelustris* | Running crab spider | 20 | 37.5 | 19.4 | 15.6 |
| Arthropoda | Arachnida | Araneae | Araneidae | *Araneus saevus* | Fierce orbweaver | 20 | 33.3 | 9.7 | 28.1 |
| Arthropoda | Arachnida | Araneae | Araneidae | *Araneus guttulatus* | Red-backed orbweaver | 20 | 12.5 | 35.5 | 18.8 |
| Arthropoda | Arachnida | - | - | - | Spider | 19 | 12.5 | 19.4 | 31.2 |
| Arthropoda | Arachnida | Araneae | Linyphiidae | *Pityohyphantes costatus* | Hammock spider | 18 | 37.5 | 16.1 | 12.5 |

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| **Table X.** Frequency of occurrence (%) of 15 prey families identified in the diets of black-throated blue warblers by survey period at the Hubbard Brook Experimental Forest, New Hampshire, USA. | | | | | | | |
|  |  |  |  |  | **Survey Period** | | |
|  |  |  |  |  | **Early** | **Mid** | **Late** |
| **Class** | **Order** | **Family** | **Common Name** | **XX** | ***n* = 29** | ***n* = 34** | ***n* = 36** |
| Insecta | Lepidoptera | Notodontidae | Prominent Moths |  | 83.3 | 100 | 87.5 |
| Insecta | Lepidoptera | Geometridae | Geometer Moths |  | 83.3 | 74.2 | 87.5 |
| Arachnida | Araneae | Theridiidae | Cobweb Spiders |  | 91.7 | 93.5 | 53.1 |
| Arachnida | Araneae | Araneidae | Orbweavers |  | 79.2 | 64.5 | 43.8 |
| Arachnida | Araneae | Philodromidae | Running Crab Spiders |  | 83.3 | 71.0 | 34.4 |
| Insecta | Lepidoptera | Tortricidae | Tortricid Leafroller Moths |  | 62.5 | 67.7 | 18.8 |
| Arachnida | Araneae | Linyphiidae | Sheetweb and Dwarf Weavers |  | 54.2 | 32.3 | 56.2 |
| Insecta | Hemiptera | Miridae | Plant Bugs |  | 25.0 | 74.2 | 21.9 |
| Insecta | Diptera | Rhagionidae | Snipe Flies |  | 62.5 | 22.6 | 34.4 |
| Arachnida | Araneae | Dictynidae | Meshweavers |  | 50.0 | 41.9 | 21.9 |
| Insecta | Hymenoptera | Ichneumonidae | Ichneumonid wasps |  | 29.2 | 29.0 | 43.8 |
| Insecta | Diptera | Cecidomyiidae | Gall and Forest Midges |  | 37.5 | 32.3 | 31.2 |
| Insecta | Diptera | Tachinidae | Bristle Flies |  | 16.7 | 29.0 | 34.4 |
| Insecta | Diptera | Mycetophilidae | Fungus Gnats |  | 8.3 | 16.1 | 46.9 |
| Arachnida | Araneae | Tetragnathidae | Long-jawed Orbweavers |  | 50.0 | 22.6 | 9.4 |

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**Table X.** PERMANOVA results indicate significant dissimilarity between black-throated blue warbler diets based on survey period and age. All variables contained 3 levels (i.e., balanced design), and tests were conducted at the level of prey species.

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| --- | --- | --- | --- | --- | --- | --- |
|  | **PERMANOVA** | | |  | **Multivariate dispersion** | |
| **Parameter** | **Pseudo-F** | **R2** | **p-value** | | **F** | **p-value** |
| Survey Period | 10.6 | 0.18 | 0.036 | | 7.6 | < 0.001 |
| Elevation | 8.4 | 0.14 | 0.074 | | 0.1 | 0.903 |
| Age | 10.4 | 0.17 | 0.043 | | 1.0 | 0.386 |
| Survey Period \* Elevation | -4.0 | -0.14 | 0.988 | |  |  |

**Figure captions**

**Figure 1.** Bee swarm

**Figure 2.** NMDS plot of diet composition shows limited overlap between the diets of black-throated blue warblers between survey periods at the Hubbard Brook Experimental Forest, New Hampshire, USA. Points represent diet composition of individuals based on species. Ovals represent standard error (???).

**Figure 3.** Frequency of occurrence (FOO) of top 15 prey families (families that occur in >20 samples) in the diets of black-throated blue warblers across survey periods at the Hubbard Brook Experimental Forest, New Hampshire, USA.

**Figure 4.** Comparison of the frequency of occurrence of prey items in the diets of black-throated blue warblers with proportional biomass of target Lepidoptera families caterpillar surveys across survey periods at the Hubbard Brook Experimental Forest, New Hampshire, USA.

**Supplementary Materials Figure captions**

**Table.** Frequency of occurrence (%) of all prey species identified in the diets of black-throated blue warblers by survey period at the Hubbard Brook Experimental Forest, New Hampshire, USA.

**Figure.** Comparison of the frequency of occurrence of prey items in the diets of black-throated blue warblers with capture frequency of the most common arthropod families identified in Malaise traps at the Hubbard Brook Experimental Forest, New Hampshire, USA.

**Figure.** NMDS plot of diet composition shows A) limited overlap between the diets of black-throated blue warblers sampled during the mid and late survey periods and B) some overlap across elevation zones at the Hubbard Brook Experimental Forest, New Hampshire, USA. Points represent diet composition of individuals based on species. Ovals represent standard error (???).