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Building a DNA barcode library of Alaska's non-marine arthropods

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Abstract: Climate change may result in ecological futures with novel species assemblages, trophic mismatch, and mass extinction. Alaska has a limited taxonomic workforce to address these changes. We are building a DNA barcode library to facilitate a metabarcoding approach to monitoring non-marine arthropods. Working with the Canadian Centre for DNA Barcoding, we obtained DNA barcodes from recently collected and authoritatively identified specimens in the University of Alaska Museum Insect Collection and the Kenai National Wildlife Refuge collection. We submitted tissues from 4,776 specimens, of which 81% yielded DNA barcodes representing 1,662 species and 1,788 Barcode Index Numbers (BINs), of primarily terrestrial, large-bodied arthropods. This represents 84% of the species available for DNA barcoding in the UAM Insect Collection. There are now 4,020 Alaskan arthropod species represented by DNA barcodes, after including all records in BOLD of species that occur in Alaska – i.e. 48.5% of the 8,277 Alaskan, non-marine-arthropod, named species have associated DNA barcodes. An assessment of the identification power of the library in its current state yielded fewer species-level identifications than expected, but the results were not discouraging. We believe we are the first to deliberately begin development of a DNA barcode library of the entire arthropod fauna for a North American state or province. Although far from complete, this library will become increasingly valuable as more species are added and costs to obtain DNA sequences fall.

Key words: DNA barcoding, inventory, monitoring, Arthropoda, biodiversity

Introduction

Alarming ecological and physical changes are being seen in Alaska (Chapin et al. 2006). North America's northernmost latitudes are warming more rapidly than any other region on Earth (Serreze et al. 2000). Alaska has warmed $\sim 2^{\circ}\text{C}$ since the 1950s and 3.5°C during the winter in interior Alaska (US Global Change Research Program, National Assessment, 2001). Shrubs are expanding into tundra and alpine zones, the growing season has lengthened by about two weeks, fires are more intense and frequent, glaciers and permafrost are melting, and Alaska's climate is shifting beyond the physiological optimum for one of its dominant boreal forest species, the white spruce *Picea glauca* (Veblen and Alaback 1996, Stone et al. 2002, Lawrence & Slater 2005, Sturm et al. 2005, McGuire et al. 2009, Beck et al. 2011, Juday et al. 2015).

Alaska is also a unique biogeographic zone due to its mostly glacier-free Neogene and Pleistocene history (Ives 1974, Matthews 1975, Behan 1978, Pielou 1991), which, unlike much of Canada, allowed organisms to survive in ice-free refugia (e.g., Beringia). This likely explains the hundreds of potentially endemic, mostly flightless, arthropod species in Alaska (Sikes & Allen 2016). Additionally, Alaska's former connection to Asia via the Bering Land Bridge has resulted in many complex and interesting biogeographic patterns between the Nearctic and Palearctic. Documentation of genetic diversity in Alaska, which is expected to contain unique mitochondrial lineages as a result of its mostly glacier-free past, will help build a Holarctic reference library that could be used to better understand this complex biogeographic history.

Establishment of a well-documented baseline for this unique biodiversity of Alaska, prior to predicted radical changes due to climate change, is an urgent priority. This baseline will allow future monitoring to detect range shifts, extirpations, extinctions, invasions, and novel species assemblages. It will also provide a starting point for phylogeographic studies.

However, Alaska has a limited taxonomic workforce with neither the expertise nor resources to identify all taxa for the purposes of inventory and monitoring. In this context, DNA barcoding generally improves the identification reliability for species that can only be identified by one sex or life stage, and enables identification of damaged specimens, and can therefore help detect range shifts that might otherwise go undetected (e.g. Chown et al. 2009, Hendrich et al. 2010, Slowik and Blagoev 2012). It can also be employed for the identification of taxa which lack sufficient taxonomists to meet identification requests. DNA barcodes can offer insights into genetic diversity of taxa lacking a solid taxonomic framework; e.g. those with cryptic biodiversity (Bálint et al. 2011). Additionally, newer methods that sequence the barcode gene region from multiple species simultaneously using next-generation sequencing (aka metabarcoding) offer the potential to measure community compositions, such as from aquatic or vertebrate gut samples, and species assemblages at very low cost (Pons 2006, Valentini et al. 2009, Ji et al. 2013).

Canada, Finland, Germany, and Norway are building DNA barcode libraries of their biotas (Gwiazdowski et al. 2015, Geiger et al. in press). The Zoologische Staatssammlung München in Germany is assembling a barcode library for Bavaria

(<http://www.faunabavarica.de/>) using an incremental taxon-specific approach (e.g. Myriapoda [Spelda et al. 2011], butterflies & macromoths [Hausmann et al. 2011], Geometridae [Hausmann et al. 2011], Neuroptera, [Gruppe et al. 2014], Heteroptera [Raupach et al. 2014]), but no North American state or province has attempted to build a comprehensive DNA barcode library of their arthropod fauna.

The University of Alaska Museum (UAM) Insect Collection and Kenai National Wildlife Refuge (KNWR) have been collaborating in non-marine arthropod identification for several years, including development of a draft species checklist for Alaska. The UAM Insect Collection, established in 2000, has become a world-class data and specimen depository for Alaska's biodiversity. Over 80% of the 1.2 M non-marine arthropod specimens catalogued into UAM as 234,745 georeferenced, online database records (as of 10 November 2015) were collected since the year 2000, making this collection ideal for genetic sampling from conventionally prepared entomology museum specimens. The KNWR has completed a spatially-explicit inventory of almost 400 arthropod species over 805,000 ha (Bowser and Morton 2009, Morton et al. 2009), in addition to conducting or cooperating on other surveys for the purpose of increasing its inventory of arthropod species richness.

The aim of our project was to obtain DNA barcodes for as many Alaskan non-marine arthropod species as possible for the explicit purpose of building a genetic reference library for researchers and others engaged in using DNA sequences as an identification tool. Further objectives were to assess the usefulness of the DNA barcode

library by using it to identify unidentified specimens and evaluating its potential ability to discriminate among named species.

Materials and methods

Sampling of specimens. Building a DNA barcode library in the most cost-effective manner, as measured by cost per species, is best achieved by use of previously identified specimens to avoid an over-abundance of common species in the library. Specimens in UAM used for this project were not collected expressly for this project, but were collected for other projects and archived dry or in 70% ethanol at room temperature. Although DNA barcodes have been successfully obtained from relatively old Alaskan specimens (e.g. 68 years old, BOLD ID = ZYPAN420-10), among the specimens selected from UAM or the KNWR collections, only 31 were older than ten years. The oldest of these was collected in 1981. The remaining specimens were collected in 2002 or more recently, with the majority collected between 2009 and 2012 (Fig. 1); i.e., less than 5 years old at the time of DNA extraction. This date range can be explained by the fact that DNA sequencing success declines with specimen age (Hebert et al. 2013), while the probability of a specimen being identified to species increases with age due to greater time being available for specialists to request and return loans. Thus, when building such a DNA barcode library one cannot use entirely one year old or younger specimens because although their DNA would be of high quality, they would likely not yet be identified. We selected the youngest specimens possible with a preference for hand-collected specimens over trapped specimens because the latter are usually exposed to

DNA-degrading conditions for longer periods than the former. When multiple specimens were available for a species we selected specimens from different geographic regions within Alaska, if possible. Although the majority of specimens were collected near populated centers and along the road system of Alaska (Fig. 2), all major regions of Alaska (Arctic, Aleutians, southcentral, interior, and southeast Alaska) were represented.

Specimens were collected using a wide variety of methods (hand, Berlese funnel, sweep net, beating, passive trapping: e.g., pitfall, Malaise, flight intercept, Lindgren) and killed and preserved in either ethanol (70-90%, rarely 100%) or propylene glycol. This variety of methods included some that were ideal for DNA preservation (e.g., specimens placed alive into 100% ethanol, frozen immediately, and kept frozen until DNA barcoding) to those that were quite suboptimal (e.g., specimens caught in a passive pitfall trap, left in the field for 2 weeks in rain-diluted propylene glycol, and then stored in the same propylene glycol at room temperature for months before being processed). Generally, samples were kept frozen at -20 °C after arrival in the lab prior to processing onto pins or into vials of 70% ethanol. Once processed, specimens were stored at room temperature. Two specimens per species were selected for DNA barcoding except when only one specimen was available for a species, in which case that specimen was used for DNA barcoding. Rarely, three or more specimens were used when there was a broad geographic spread of specimens available or when there was apparent morphological variation that might indicate large among-population genetic diversity or cryptic species. Identifications were performed by over 150 entomologists / arachnologists (listed in the Acknowledgements) using appropriate taxonomic literature.

Most KNWR specimens used for DNA barcoding came from KNWR's Long Term Ecological Monitoring Program (LTEMP) (Morton et al. 2009) and a 2011 Rapid Ecological Assessment with the express purpose of obtaining specimens for DNA barcoding (REA) (Bowser 2012).

For the LTEMP, we sampled arthropod occurrence and relative abundance within 255 5.64-m radius circular plots systematically spaced at 5 km intervals over the 805,000 ha KNWR using a 30-cm (12 inch) diameter sweep net (BioQuip™ model 7112CP with 30 cm extension handle). All specimens were placed in a single Nalgene® wide-mouth 250 ml bottle containing sufficient 95% denatured ethanol to cover the sample. Species were identified in-house whenever possible, but many specimens were shipped to >40 specialists for expert determinations (listed in Acknowledgments).

For the REA, we employed a wide variety of DNA-friendly collecting methods (sweep nets, aerial nets, Malaise traps, pan traps, sieves, aquatic nets, streamside washing of substrate, and searching under stones, logs, and under bark by hand) from June 27 to July 1, 2011 at three sites on KNWR representing boreal forest, glacial outwash plain, and subalpine habitats. At these sites we attempted to sample all available microhabitat types (streams, lakes, ponds, terrestrial vegetation, gravel bars, etc.). Passive traps (Malaise and pan traps) were run for approximately 24 hours. Most specimens were placed in 90-100% ethanol or immediately frozen in coolers with dry ice. Specimens collected into ethanol were transferred to a freezer upon returning to the lab.

DNA sequencing and data depository. Specimens were processed in groups of 95, reflecting the 95 wells in a 96-well microplate with one well left empty as a negative control, as described and illustrated in Hebert et al. (2013) with the exception that a single laboratory technician managed the workflow alone rather than in a team (each of the authors, except JM, prepared plates). Each 96-well plate, with one specimen leg per well, was sent to the Canadian Centre for DNA Barcoding (CCDB), University of Guelph. Each de-legged specimen was photographed using a Leica DFC425 camera mounted on a Leica MZ16 stereomicroscope in combination with Leica Application Suite © software v.3.8.0. Photographs were reduced in size and brightened using Adobe Photoshop v.CS6 to conform to expectations for posting in the Barcode of Life Data System (BOLD; Ratnasingham and Hebert 2007). Data files and images were uploaded to the BOLD website. The CCDB followed standardized high-throughput protocols for DNA extraction, amplification, and bidirectional sequencing (Ivanova et al. 2006, deWaard et al. 2008, <http://ccdb.ca/resources.php>). We opted to include ‘failure-tracking’ for this project which attempts to recover DNA barcodes from specimens that failed in the first pass, using more closely spaced primers as described at <http://ccdb.ca/pricelist.php>.

Three 96-well plates of specimens from the KNWR entomology collection were submitted to the CCDB using methods similar to UAM’s. Additional KNWR sequences were obtained by collaboration, either through donation of KNWR specimens to taxon-specific DNA barcoding initiatives or facilitation of field sampling from KNWR by researchers working on DNA barcoding projects.

A data archive in Arctos, the online database used by UAM and KNWR, of the voucher specimens DNA barcoded from UAM and the KNWR collections is at: <http://arctos.database.museum/archive/knwr-uam-dna-barcoded>. These data are also available via the BOLD website under the public project names UAMIC, UAMU, SPIAL, and KNWRA. This work was conducted using BOLD v3; however, BOLD v4 (in beta form) was introduced while results were being written up for publication. BOLD v4 has improvements and counts species differently than BOLD v3 (e.g. minor spelling errors, differences, or interim name codes, such as "sp.", were recognized as distinct species in BOLD v3). Our results presented herein were updated to values from BOLD v4. Records in the projects SPIAL, UAMIC, UAMU, and KNWRA have been submitted to GenBank (accession #s HQ580516 - HQ580724, JN582182-JN582264, KU496677- KU496863, KU873129 - KU873924, KU873941 - KU876530); 160 sequences were flagged as problematic due to the presence of stop codons or suspected contamination, and thus not suitable to submit to GenBank. These are in BOLD project UAMF. Arctos shares data with iDigBio and the Global Biodiversity Information Facility (GBIF). In addition to label and identification data, the BOLD site contains images, DNA barcode sequences, primers, and trace files. All Arctos records are linked to their corresponding BOLD records (e.g. <http://arctos.database.museum/guid/UAM:Ento:11800>). Future improvements to BOLD will provide public reciprocal links to corresponding Arctos records as GenBank does. All DNA extractions made by CCDB were transferred to UAM and are stored in UAM's Genomic Resources collection for future use. We also count among our totals any records

publicly available on BOLD for DNA barcoded species that were collected in Alaska but processed by other projects based on specimens stored in UAM or other institutions. These projects include PLNW (*Platycheirus* (Syrphidae) of the New World [Young et al. 2016]) and CNCTI (CNC Diptera 2012 – Tipulidae). Finally, to assess how thoroughly the entire Alaskan fauna has been DNA barcoded, we determined how many species which occur in Alaska have DNA barcodes in BOLD based on specimens not collected in Alaska. The vast majority of these records come from specimens in the Canadian National Collection (CNC).

The count of Alaskan non-marine arthropod species as represented by Barcode Index Numbers (BINs, Ratnasingham and Hebert (2013)) was obtained by submitting the search string “Arthropoda Alaska” into BOLD’s Public Data Portal on November 20, 2015, downloading the results, and selecting all records where the province was Alaska. Crustacea were excluded because this group contains both marine and non-marine species. The BIN system uses a set of algorithms to join DNA barcode sequences into Molecular Operational Taxonomic Units (MOTUs). These frequently correspond to species. Each MOTU is given a unique identifier - a BIN, linked to a DOI (Ratnasingham and Hebert 2013).

We performed a Barcode Gap Analysis of the UAMIC project after problematic records had been removed to project UAMF, which compares the maximum pairwise distance within each species to its nearest neighbour. Nearest neighbours are different species with the closest pairwise distances. We used default priors, restricted the analysis

to sequences ≥ 500 bp in length and used the BOLD aligner (Amino Acid based HMM) for the analysis.

A draft list of all non-marine arthropod species known from Alaska (N=8,277 as of 25 Nov 2015) is maintained by the first and second authors through the online database, Arctos. This list was used to assess thoroughness of our state-wide barcoding effort. An archive of the list used is at <http://arctos.database.museum/saved/AK-Arthropoda-checklist-2016-01-14>.

Testing the DNA barcode library of Alaskan non-marine arthropods. We established the public project UAMU in BOLD for 950 previously unidentified but recently collected (all under 5 years old) specimens submitted for identification via DNA barcodes. These comprised a sample of 190 Coleoptera, 569 Hymenoptera, and 190 Diptera specimens representing, *a priori*, an unknown number of species. Although not a truly random sample, these specimens met the criteria of being recently collected, unidentified, not easily identifiable by conventional methods, and belonging to on-going inventory projects for which identifications were being sought. These specimen records can be accessed via this URL: <http://arctos.database.museum/project/uamu-dna-barcode-project>.

A summary of all taxa/identifications of these records is available at this URL <http://arctos.database.museum/saved/DNA-Barcode-UAMU-taxa>. At the time of this submission we had only obtained DNA barcodes for ~1,000 Alaskan species, which, combined with DNA barcodes already in BOLD for Alaskan species, represented ca. 40% of the Alaskan non-marine arthropod fauna. Thus, *a priori*, we expected to obtain

species-level identifications for no more than 40% of the species in our sample.

Identification success was evaluated before records had been assigned to BINs so each sequenced specimen was queried against the BOLD ID engine's 'Species DB' (if none of the matches were within 99%, the 'Full DB' search was used). We checked if the results of an ID search were consistent with the known higher taxon of the specimen (e.g. Coleoptera). We recorded the probability of placement to species, if available, and the % similarity range for all records matching the lowest taxon rank with a name among the results. We checked if the matching name was a taxon already known to occur in or near Alaska and flagged any that were not for further investigation. A species-level ID was scored a success if a match to a single species was at 98% or higher sequence similarity. If multiple species matched our unknown sequence at 98% sequence similarity or higher, we truncated the ID to the genus level and didn't count this as a species-level ID success but did count it as an identification improvement to the genus level. The same process was used to score identification improvements at higher ranks (e.g. family, again only using matches of 98% sequences similarity or higher).

Results

At the time of this study, UAM held specimens of 2,862 of the 8,277 known Alaskan non-marine arthropod species. Of these, 1,984 species are represented by specimens collected since 2002 and are thus ideal for DNA barcoding. The UAM Insect Collection submitted tissues from 4,845 photographed and databased specimens, of which 3,952

yielded sequences, of which 3,273 were Barcode Compliant (sequence length of >500bp, < 1% ambiguous bases, two trace files, a minimum of low trace quality status as scored by BOLD, and the presence of a country specification in the record, as set out by the Consortium for DNA Barcoding). Excluding sequences <100 bp and flagged, problematic records, these sequences clustered into 1,625 BINs. A total of 7,927 trace files were generated from the UAMIC project, of which 57.0% were high quality, 10.5% medium quality, 6.96% low quality, and 25.55% failed. Sequence quality was high (98.5% of sequences exhibited <1% Ns), and sequence lengths for those that didn't fail entirely ranged from 77 - 658 bp, with an average length of 612 bp (+/-103.7 SD), and a mode of 658 bp. Mean sequence composition was A-T rich, as expected for arthropods (A = 29.3%, C= 16.4%, G = 16.2%, and T = 38.1%).

The projects UAMIC and UAMU were based on 36 and 10 plates submitted to the CCDB, respectively. Museum and lab work for these two projects spanned the time frame January 2013 through June 2015. A summary of the results across the DNA barcoding projects presented here are in Table 1.

There are now 4,020 Alaskan species represented by DNA barcodes in BOLD – i.e. 48.5% of the Alaskan non-marine arthropod fauna has species-level identified DNA barcodes. We obtained barcodes for members of seven orders that are known to have more than 100 species in Alaska (Fig. 3) and nine orders with fewer than 100 species in Alaska (Fig. 4). We did not obtain DNA barcodes from 18 of the terrestrial arthropod orders that are known from Alaska (Acari, Notostraca, Isopoda, Geophilomorpha, Lithobiomorpha, Julida, Polyxenida, Archaeognatha, Dermaptera, Blattodea, Diplura,

Siphonaptera, Thysanoptera, Trichoptera, Zygentoma, Protura, Symphyla, Pauropoda). Although we attempted to obtain DNA barcodes from Dermaptera and Zygentoma specimens, they failed to sequence. The remaining 16 orders were not submitted for DNA barcoding due primarily to lack of suitable specimens.

The UAMIC project obtained DNA barcodes from 1,449 species which correspond to 1,342 BINs on BOLD. Our Barcode Gap Analysis of this project, after flagged records were removed, included 2,259 sequences, of which there were 149 species with high maximum within-species distances ($>2\%$) and 223 species with low minimum distances to other species ($<2\%$). The mean of the within-species mean uncorrected distances, based on sequences >500 bp in length, was 1.16%, with a range of 0-21.27%, and the mean nearest-neighbour distance was 9.4%, with a range of 0-38.96%. The mean of the within-species maximum distances was 1.26% with a range of 0-22.85%. Figure 5 illustrates 340 p-distance comparisons for species of which we had both multiple specimens DNA barcoded and multiple congeners DNA barcoded (see within-species distances in Supplementary Material).

At present, a total of 2,251 non-marine arthropod BINs (excluding Crustacea) have been collected from Alaska and made publicly available on BOLD. Within the UAMIC project, a BIN discordance report indicated that 611 of this project's 1,342 BINs are taxonomically discordant (BIN shared by more than one taxon in BOLD v3 across all projects), 660 are taxonomically concordant (BIN contains multiple records of one taxon), and 89 BINs are singletons containing only one sequence. An example of the latter category is the BIN BOLD:ACS6051 that contains a sequence from one specimen

of the omaliine staphylinid beetle, *Micralymma brevilingue* Schiødte, 1845, collected on St. Matthew Island in the Bering Sea (Fig. 6). There are other sequences of this species in the BOLD database, but they fall into a different, nearest-neighbour (6.81% p-dist.), BIN (BOLD:ACA4418) based on specimens collected in Greenland.

The test of the library using 950 unidentified specimens resulted in 803 DNA barcode sequences after problematic records were removed (UAMU project, Table 1) of which 653 were DNA Barcode Compliant. The sequences from these specimens fell into 240 BINs, and 58 of these BINs yielded confident species-level identifications (24% of 240). There was a fairly large difference between orders in the success of identification. Of the Diptera, 42% of the specimens were identified to species, while only 23% of the Hymenoptera specimens and 23% of the Coleoptera specimens could be identified to that level. Of 803 specimens that yielded DNA sequences, 241 saw some identification improvements at the family level, 474 at the genus level, and 256 at the species level. Overall, 609 records saw identification improvement at some level (75.8%).

Discussion

This work represents an important step in the documentation of Alaska's biota and lays a foundation for future research and biomonitoring. Prior to our work, no state or province in North America had begun a project to obtain DNA barcodes for their entire arthropod fauna. Our efforts, combined with those of others contributing data to the Barcode of Life Data Systems, BOLD, have resulted in DNA barcodes for almost half of the known Alaskan non-marine arthropods.

However, our results also demonstrate the need for additional integrative taxonomic revisionary work to help resolve the discordance we documented. There are various explanations for the 611 BINs (46% of the total) with discordant taxonomy (BIN sharing) in the UAMIC project. Some discordance is due to simple differences in spellings (e.g. *Amerizus oblongulus* (Mannerheim, 1852) vs. *Amerizus oblongulum* (Mannerheim, 1852), the former is correct according to Bousquet et al. (2013)); some is due to different taxonomic classifications (e.g. *Aedes* vs. *Ochlerotatus*; *Ips* vs. *Pseudips*); some is likely due to misidentifications, lab errors (e.g. contaminations), young / incipient species (haplotype sharing, introgression), *Wolbachia* infection, or taxonomic oversplitting (species which should be synonymized). BOLD staff members routinely examine discordant BINs and work with BOLD project managers to resolve them. BIN discordance documents the problem of multiple Linnaean names with low genetic divergence. We also discovered 275 species with higher than normal (>2%, Zhou et al. 2009) maximum within-species divergence (Fig. 5). Explanations for these results also include possible misidentifications (two or more different species identified as the same prior to DNA barcoding) or lab errors, but some may result from taxonomic undersplitting (e.g., cryptic, unrecognized species) or represent species with above-average genetic diversity. Examination of BOLD-generated neighbour-joining trees to determine if the component taxa form reciprocally-monophyletic clusters is a first step towards resolving these.

An example of the category of potentially cryptic species is the circumpolar, arctic species *Micralymma brevilingue*, mentioned in the results (Fig. 6). The Greenland

samples in BOLD for this wingless species form a monophyletic sister cluster to the one Alaskan sample, which is almost 7% divergent, and thus likely not conspecific. Further examination of this case, including examination of type specimens and greater genetic sampling from Alaska and Siberia, might lead to the resurrection of the currently invalid name *Micralymma dicksoni* Mäklin (1881), known from arctic Siberia and the Alaskan Pribilof Islands, as valid. Even such brief examination of the hundreds of other similar cases unearthed by this project is beyond the scope of this paper.

Because BOLD requires specimen vouchers for all DNA barcodes, in theory, each discordant BIN can be investigated and resolved. This will be an enormous undertaking, requiring the taxonomic study of many hundreds or thousands of specimens from dozens of different institutions. This will ideally be undertaken one higher taxon at a time, with collaboration of one or more taxonomists focused on each group.

Sampling coverage was not even across higher taxa. The major aquatic insect orders Ephemeroptera, Plecoptera, and Trichoptera were not well sampled (Fig. 4) nor were orders with rare, small, soft-bodied, or parasitic species (e.g. Diplura, Acari, Siphonaptera). Aquatic insects in Alaska are of great interest to ecologists and fisheries biologists (e.g. Roon et al. 2014), and we hope future DNA barcoding efforts in Alaska will focus more on these taxa.

The UAMU project to test the barcode library resulted in 240 BINs, of which 24% have species-level identifications. This is within our *a priori* expectation of no more than 40%, but somewhat lower than hoped, perhaps as a result of our submitted unknowns not corresponding proportionally to the taxa used to build the library. If we

had submitted unknowns in the same proportions as illustrated in Figure 2 (Coleoptera: 6.7, Diptera: 2.8, Hymenoptera: 1), the success rate may have been closer to 40%. To further clarify this point, if we had submitted only Collembola, Plecoptera, and Ephemeroptera as unknowns this would have been a poor test of the library because these orders contain very few of the species we added to the DNA barcode library. As the DNA barcode library for northern North American arthropods approaches completion, which will require taxonomic revision and new descriptions of many taxa, all 803 sequences in these 240 BINs should receive species-level identifications eventually.

Our project has laid the foundation of a statewide reference library with which to compare future barcodes for identifying non-marine arthropods in Alaska. While not representative of all areas of Alaska, our collaboration has ensured good representation from the Fairbanks and Kenai areas (Fig. 1), a reasonable cross-section of the boreal biome. We are also planning future research to target taxa for DNA barcoding that were undersampled in this effort including Ephemeroptera, Plecoptera, and Trichoptera.

We can foresee multiple applications of our DNA barcode library both immediately and in the near future, including setting the stage for studies that use DNA barcodes to facilitate identification of otherwise cryptic material (e.g., fecal or stomach content analysis); to facilitate citizen science (e.g., using LifeScanner); better forest pest monitoring (Early Detection Rapid Response, Forest Health Protection programs); phylogeographic studies, such as through comparison with other northern barcode-based inventories (e.g. Zhou et al. 2009, Wirta et al. 2016); and inventory and monitoring of

biodiversity using next-generation sequencing metabarcoding analysis of arthropod assemblages in environmental samples (e.g., in future iterations of LTEMP).

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Table 1. Summary of results from different DNA barcoding BOLD projects reported. UAMIC = University of Alaska Museum Insect Collection, UAMU = University of Alaska Museum Unidentifieds, SPIAL = Spiders of Alaska, KNWRA = Arthropods of the Kenai National Wildlife Refuge. # of species submitted provides counts based on species identified to species level prior to submission. # of specimens submitted are counts after problematic records had been removed from the project. NA = not applicable.

Project acronym	# of specimens submitted	# of specimens success (%)	# species submitted	#species success (%)
UAMIC	3,281	2,607 (80.3%)	1,674	1,449 (86.5%)
UAMU	928	803 (86.5%)	0	NA
SPIAL	281	208 (74%)	72	68 (94.4%)
KNWRA	286	270 (94.4%)	267	253 (94.8%)
Total	4,776	3,888 (81.4%)	1,882	1,662 (88.3%)

Figure Captions

Figure 1. Count of specimens DNA barcoded from UAM and KNWR by year of specimen collection.

Figure 2. Map showing locations from which 4,239 Alaskan DNA barcoded specimens stored in UAM or KNWR were collected. Colored circles indicate geocoordinate uncertainty (error) with red circles for KNWR records and blue circles for UAM records. Green areas on the map denote US Federal lands (e.g. National Park Service, National Wildlife Refuge, and National Forest lands).

Figure 3. Large orders of arthropods with Alaskan specimens in UAM showing the number of species known from Alaska in black, the number of authoritatively identified species with specimens in UAM that had been collected since 2002 (light grey), and the number of these species that were DNA barcoded (cross-hatch patterned) based on UAM specimens.

Figure. 4. Small orders of arthropods with Alaskan specimens in UAM showing the number of species known from Alaska in black, the number of authoritatively identified species with specimens in UAM that had been collected since 2002 (light grey), and the

number of these species that were DNA barcoded (cross-hatch patterned) based on UAM specimens.

Figure 5. Maximum within-species p-distances versus minimum among-congeneric species p-distances for 340 comparisons of UAMIC records for which we had DNA barcodes for multiple species within a genus and for multiple specimens within a species. Quadrants represent: I. consistent with current taxonomy (n=147); II. possible species undersplitting (candidates for taxonomic split) or misidentifications (n=44); III. recent divergence, hybridization, or possible species oversplitting (candidates for synonymy) (n=92); IV. possible misidentifications (n=57). All within-species comparisons were made after excluding records not identified to species. Uncorrected pairwise distances were aligned using the amino-acid based BOLD alignment and limited to sequences 500 bp or longer in length.

Figure 6. *Micralymma brevilingue* Schiødte, 1845. DNA barcode voucher, UAM specimen UAM:Ento:243942

Figure 1. Count of specimens DNA barcoded from UAM and KNWR by year of specimen collection.

127x95mm (300 x 300 DPI)

Figure 3. Large orders of arthropods with Alaskan specimens in UAM showing the number of species known from Alaska in black, the number of authoritatively identified species with specimens in UAM that had been collected since 2002 (light grey) and the number of these species that were DNA barcoded (cross-hatch patterned) based on UAM specimens.

127x100mm (300 x 300 DPI)

Figure. 4. Small orders of arthropods with Alaskan specimens in UAM showing the number of species known from Alaska in black, the number of authoritatively identified species with specimens in UAM that had been collected since 2002 (light grey) and the number of these species that were DNA barcoded (cross-hatch patterned) based on UAM specimens.

127x110mm (300 x 300 DPI)

Figure 5. Maximum within-species p-distances versus minimum among-congeneric species p-distances for 340 comparisons of UAMIC records for which we had DNA barcodes for multiple species within a genus and for multiple specimens within a species. Quadrants represent: I. consistent with current taxonomy (n=147); II. possible species undersplitting (candidates for taxonomic split) or misidentifications (n=44); III. recent divergence, hybridization, or possible species oversplitting (candidates for synonymy) (n=92); IV. possible misidentifications (n=57). All within-species comparisons were made after excluding records not identified to species. Uncorrected pairwise distances were aligned using the amino-acid based BOLD alignment and limited to sequences 500 bp or longer in length.

254x190mm (300 x 300 DPI)

Figure 6. Example of a potentially cryptic species based on DNA barcode evidence. Currently under the name *Micralymma brevilingue* Schiødte, 1845. This Alaskan specimen might belong to a separate species under the currently invalid name *Micralymma dicksoni* Mäklin (1881). DNA barcode voucher, UAM specimen UAM:Ento:243942.

38x75mm (300 x 300 DPI)

Supplementary Material - uncorrected pairwise within species distances
All within-species comparisons were made after excluding records not identified to species.
Uncorrected pairwise distances were aligned using the amino-acid based BOLD alignment and limited to sequences 500 bp or longer in length.

species	BOLD sample id	species	BOLD sample id	distance
Orthotylus katmai	UAMIC2083-14	Orthotylus katmai	UAMIC2016-14	23.394495
Pseudohylesinus tsugae	UAMIC160-13	Pseudohylesinus tsugae	UAMIC2270-14	21.559633
Pseudohylesinus tsugae	UAMIC2215-14	Pseudohylesinus tsugae	UAMIC2270-14	21.263481
Quedius fulvicollis	UAMIC104-13	Quedius fulvicollis	UAMIC2881-15	20.952381
Quedius fulvicollis	UAMIC2903-15	Quedius fulvicollis	UAMIC2881-15	20.813007
Hylurgops rugipennis	UAMIC249-13	Hylurgops rugipennis	UAMIC2197-14	19.4605
Hylurgops rugipennis	UAMIC249-13	Hylurgops rugipennis	UAMIC2208-14	18.960245
Quedius simulator	UAMIC115-13	Quedius simulator	UAMIC2916-15	18.333334
Sminthurinus concolor	UAMIC941-13	Sminthurinus concolor	UAMIC942-13	18.26923
Irbisia sericans	UAMIC2127-14	Irbisia sericans	UAMIC2125-14	17.889908
Tetragnatha laboriosa	UAMIC1733-14	Tetragnatha laboriosa	UAMIC1498-13	17.737003
Dyschirius politus politus	UAMIC2934-15	Dyschirius politus politus	UAMIC2921-15	17.717207
Irbisia sericans	UAMIC2159-14	Irbisia sericans	UAMIC2127-14	17.431192
Phlaeopterus lagrandeuri	UAMIC1872-14	Phlaeopterus lagrandeuri	UAMIC633-13	17.431192
Bembidion arcticum	UAMIC2947-15	Bembidion arcticum	UAMIC2922-15	17.418034
Tetragnatha laboriosa	UAMIC1733-14	Tetragnatha laboriosa	UAMIC1741-14	17.278286
Atheta prudhoensis	UAMIC2607-15	Atheta prudhoensis	UAMIC2613-15	16.360857
Boreostiba websteri	UAMIC2712-15	Boreostiba websteri	UAMIC2674-15	16.360857
Coelopa stejnegeri	UAMIC927-13	Coelopa stejnegeri	UAMIC928-13	16.360857
Atheta capsularis	UAMIC2622-15	Atheta capsularis	UAMIC2598-15	15.902141
Atheta prudhoensis	UAMIC2607-15	Atheta prudhoensis	UAMIC2621-15	15.596331
Tetragnatha extensa	UAMIC1786-14	Tetragnatha extensa	UAMIC1787-14	15.443425
Lypoglossa angularis angularis	UAMIC2742-15	Lypoglossa angularis angularis	UAMIC2688-15	15.348837
Atheta capsularis	UAMIC2598-15	Atheta capsularis	UAMIC2616-15	15.284554
Atheta picipennis	UAMIC2605-15	Atheta picipennis	UAMIC2611-15	15.007657
Lypoglossa angularis angularis	UAMIC2700-15	Lypoglossa angularis angularis	UAMIC2688-15	14.984709
Atheta nescia	UAMIC2588-15	Atheta nescia	UAMIC2648-15	14.525993
Atheta nescia	UAMIC2592-15	Atheta nescia	UAMIC2648-15	14.333333
Trypodendron lineatum	UAMIC159-13	Trypodendron lineatum	UAMIC2240-14	14.220184
Trypodendron lineatum	UAMIC159-13	Trypodendron lineatum	UAMIC2198-14	14.220184
Atheta klagesi	UAMIC2632-15	Atheta klagesi	UAMIC2571-15	14.209591
Atheta nescia	UAMIC2592-15	Atheta nescia	UAMIC2588-15	14.166667
Dorytomus leucophyllus	UAMIC240-13	Dorytomus leucophyllus	UAMIC112-13	14.064916
Atheta strigosula	UAMIC2656-15	Atheta strigosula	UAMIC2577-15	13.957055
Trypodendron lineatum	UAMIC2240-14	Trypodendron lineatum	UAMIC2237-14	13.914373
Trypodendron lineatum	UAMIC2198-14	Trypodendron lineatum	UAMIC2237-14	13.914373
Trypodendron lineatum	UAMIC252-13	Trypodendron lineatum	UAMIC2240-14	13.914373
Trypodendron lineatum	UAMIC252-13	Trypodendron lineatum	UAMIC2198-14	13.914373
Thanatus formicinus	UAMIC1633-13	Thanatus formicinus	UAMIC1702-13	13.761468
Thanatus formicinus	UAMIC1633-13	Thanatus formicinus	UAMIC1663-13	13.761468
Corticarina minuta	UAMIC3301-15	Corticarina minuta	UAMIC3328-15	13.455658
Atheta frosti	UAMIC2617-15	Atheta frosti	UAMIC2570-15	13.333334
Atheta capsularis	UAMIC2622-15	Atheta capsularis	UAMIC2616-15	13.170731
Atheta strigosula	UAMIC2639-15	Atheta strigosula	UAMIC2577-15	12.996942
Atheta keeni	UAMIC2587-15	Atheta keeni	UAMIC2645-15	12.833333
Atheta dadopora	UAMIC2580-15	Atheta dadopora	UAMIC2641-15	12.730627
Tetrix ornata	UAMIC573-13	Tetrix ornata	UAMIC699-13	12.450593
Atheta curvipennis	UAMIC2655-15	Atheta curvipennis	UAMIC2654-15	12.385322
Aleochara bilineata	UAMIC2476-15	Aleochara bilineata	UAMIC2509-15	12.232416

Helophorus sp.	UAMIC2454-14	Helophorus sp.	UAMIC2400-14	12.232416
Dinaraea n. sp.	UAMIC2691-15	Dinaraea n. sp.	UAMIC2727-15	11.926605
Venusia pearsalli	UAMIC3121-15	Venusia pearsalli	UAMIC3137-15	11.926605
Bombus fernaldae	UAMIC756-13	Bombus fernaldae	UAMIC755-13	10.856269
Eupithecia tripunctaria	UAMIC3057-15	Eupithecia tripunctaria	UAMIC3056-15	10.856269
Stearibia nigriceps	UAMIC3032-15	Stearibia nigriceps	UAMIC2948-15	10.856269
Oxytelus laqueatus	UAMIC2355-14	Oxytelus laqueatus	UAMIC2873-15	10.685805
Atheta strigosula	UAMIC2656-15	Atheta strigosula	UAMIC2639-15	10.582822
Scatophila cribrata	UAMIC968-13	Scatophila cribrata	UAMIC967-13	10.397553
Oxytelus laqueatus	UAMIC2872-15	Oxytelus laqueatus	UAMIC2355-14	9.888357
Dictyna major	UAMIC1551-13	Dictyna major	UAMIC1543-13	9.633028
Bembidion sordidum	UAMIC049-12	Bembidion sordidum	UAMIC375-13	9.313725
Bombus sylvicola	UAMIC757-13	Bombus sylvicola	UAMIC758-13	9.233449
Olophrum rotundicolle	UAMIC1853-14	Olophrum rotundicolle	UAMIC1828-14	8.899676
Anathix puta	UAMIC3157-15	Anathix puta	UAMIC3124-15	8.868502
Emblyna peragrata	UAMIC1544-13	Emblyna peragrata	UAMIC1585-13	8.868502
Eris militaris	UAMIC1690-13	Eris militaris	UAMIC1676-13	8.103975
Ochlerotatus fitchii	UAMIC872-13	Ochlerotatus fitchii	UAMIC873-13	8.103975
Eudonia commortalis	UAMIC3091-15	Eudonia commortalis	UAMIC3092-15	7.9510703
Gesneria centuriella	UAMIC3145-15	Gesneria centuriella	UAMIC3142-15	7.8003125
Atheta nr. picipennis	UAMIC2657-15	Atheta nr. picipennis	UAMIC2626-15	7.7981653
Oxypoda frigida	UAMIC2784-15	Oxypoda frigida	UAMIC2846-15	7.037037
Scatella obsoleta	UAMIC1011-13	Scatella obsoleta	UAMIC1008-13	7.017544
Platycheirus ciliatus	UAMIC2968-15	Platycheirus ciliatus	UAMIC3036-15	6.880734
Saldula pallipes	UAMIC2102-14	Saldula pallipes	UAMIC2146-14	6.880734
Dendroctonus punctatus	UAMIC2193-14	Dendroctonus punctatus	UAMIC2204-14	6.6086955
Epuraea terminalis	UAMIC214-13	Epuraea terminalis	UAMIC215-13	6.1191626
Epuraea terminalis	UAMIC293-13	Epuraea terminalis	UAMIC215-13	5.929487
Culiseta impatiens	UAMIC908-13	Culiseta impatiens	UAMIC907-13	5.819296
Anisosticta bitriangularis	UAMIC116-13	Anisosticta bitriangularis	UAMIC357-13	5.607476
Callicorixa alaskensis	UAMIC2152-14	Callicorixa alaskensis	UAMIC2180-14	5.4226475
Oxypoda frigida	UAMIC2784-15	Oxypoda frigida	UAMIC2812-15	5.400982
Oxypoda frigida	UAMIC2846-15	Oxypoda frigida	UAMIC2812-15	5.3703704
Hydriomena renunciata	UAMIC3136-15	Hydriomena renunciata	UAMIC1156-13	5.351682
Saldula laticollis	UAMIC2117-14	Saldula laticollis	UAMIC2179-14	5.351682
Callicorixa alaskensis	UAMIC2118-14	Callicorixa alaskensis	UAMIC2152-14	5.103668
Cicindela oregona	UAMIC358-13	Cicindela oregona	UAMIC289-13	5.0161815
Cicindela oregona	UAMIC018-12	Cicindela oregona	UAMIC358-13	5.0161815
Pardosa dorsuncata	UAMIC1430-13	Pardosa dorsuncata	UAMIC1501-13	5.0161815
Dendroctonus rufipennis	UAMIC260-13	Dendroctonus rufipennis	UAMIC169-13	4.8929667
Agonum consimile	UAMIC073-12	Agonum consimile	UAMIC301-13	4.6666665
Apamea alia	UAMIC3177-15	Apamea alia	UAMIC3186-15	4.587156
Hyptiotes gertschi	UAMIC1296-13	Hyptiotes gertschi	UAMIC1297-13	4.587156
Lepidophorus lineaticollis	UAMIC415-13	Lepidophorus lineaticollis	UAMIC1851-14	4.434251
Bembidion compressum	UAMIC3409-15	Bembidion compressum	UAMIC3417-15	4.2483664
Eristalis hirta	UAMIC2979-15	Eristalis hirta	UAMIC3025-15	4.134763
Epinotia nisella	UAMIC3109-15	Epinotia nisella	UAMIC3110-15	4.1284404
Bembidion compressum	UAMIC3409-15	Bembidion compressum	UAMIC3414-15	3.9800994
Atheta prudhoensis	UAMIC2621-15	Atheta prudhoensis	UAMIC2613-15	3.82263
Gnaphosa parvula	UAMIC1597-13	Gnaphosa parvula	UAMIC1547-13	3.6753445
Dendroctonus rufipennis	UAMIC2278-14	Dendroctonus rufipennis	UAMIC169-13	3.6697247
Lepidophorus lineaticollis	UAMIC211-13	Lepidophorus lineaticollis	UAMIC1851-14	3.6697247
Philodromus rufus	UAMIC1648-13	Philodromus rufus	UAMIC1629-13	3.6697247
Zelotes fratis	UAMIC1593-13	Zelotes fratis	UAMIC1527-13	3.5658915

Dendroctonus rufipennis	UAMIC2232-14	Dendroctonus rufipennis	UAMIC169-13	3.5168197
Trypodendron lineatum	UAMIC159-13	Trypodendron lineatum	UAMIC2237-14	3.5168197
Trypodendron lineatum	UAMIC252-13	Trypodendron lineatum	UAMIC159-13	3.5168197
Gabrius brevipennis	UAMIC121-13	Gabrius brevipennis	UAMIC2919-15	3.4482758
Compsobata pallipes	UAMIC3007-15	Compsobata pallipes	UAMIC2988-15	3.3639145
Dendroctonus rufipennis	UAMIC260-13	Dendroctonus rufipennis	UAMIC2278-14	3.3639145
Eana argentana	UAMIC468-13	Eana argentana	UAMIC467-13	3.3639145
Dendroctonus rufipennis	UAMIC2206-14	Dendroctonus rufipennis	UAMIC169-13	3.3175356
Bombus sitkensis	UAMIC713-13	Bombus sitkensis	UAMIC688-13	3.2312925
Dendroctonus rufipennis	UAMIC260-13	Dendroctonus rufipennis	UAMIC2206-14	3.1595576
Chrysotus n. sp. choricus grp	UAMIC877-13	Chrysotus n. sp. choricus grp	UAMIC885-13	3.0769231
Xanthorhoe fossaria	UAMIC515-13	Xanthorhoe fossaria	UAMIC514-13	3.0595813
Bromius obscurus	UAMIC2275-14	Bromius obscurus	UAMIC2267-14	3.058104
Clubiona furcata	UAMIC1532-13	Clubiona furcata	UAMIC1541-13	3.058104
Mecomma gilvipes	UAMIC2053-14	Mecomma gilvipes	UAMIC2074-14	3.058104
Compsobata pallipes	UAMIC3033-15	Compsobata pallipes	UAMIC3007-15	3.030303
Aspitates forbesi	UAMIC3195-15	Aspitates forbesi	UAMIC3194-15	2.973396
Colias nastes	UAMIC436-13	Colias nastes	UAMIC3202-15	2.9411764
Pardosa fuscula	UAMIC1500-13	Pardosa fuscula	UAMIC1456-13	2.9411764
Dendroctonus rufipennis	UAMIC260-13	Dendroctonus rufipennis	UAMIC2232-14	2.9051988
Xanthorhoe abrasaria	UAMIC569-13	Xanthorhoe abrasaria	UAMIC568-13	2.7642276
Xysticus triguttatus	UAMIC1716-14	Xysticus triguttatus	UAMIC1724-14	2.672956
Dasysyrphus amalopis	UAMIC2977-15	Dasysyrphus amalopis	UAMIC2958-15	2.5993884
Dictyna arundinacea	UAMIC1584-13	Dictyna arundinacea	UAMIC1545-13	2.5993884
Colias hecla	UAMIC435-13	Colias hecla	UAMIC3257-15	2.578269
Apotomis tertiana	UAMIC3150-15	Apotomis tertiana	UAMIC3151-15	2.4464834
Apotomis tertiana	UAMIC3150-15	Apotomis tertiana	UAMIC3143-15	2.4464834
Gnathacmaeops pratensis	UAMIC2398-14	Gnathacmaeops pratensis	UAMIC2403-14	2.4464834
Gnathacmaeops pratensis	UAMIC2398-14	Gnathacmaeops pratensis	UAMIC2433-14	2.4464834
Pteromicra pectorosa	UAMIC3315-15	Pteromicra pectorosa	UAMIC3310-15	2.4038463
Dolichopus detersus	UAMIC898-13	Dolichopus detersus	UAMIC897-13	2.293578
Helophora insignis	UAMIC1250-13	Helophora insignis	UAMIC1309-13	2.293578
Incisalia augustinus	UAMIC3206-15	Incisalia augustinus	UAMIC3256-15	2.293578
Lithomoia germana	UAMIC3155-15	Lithomoia germana	UAMIC3161-15	2.1406727
Upis ceramboides	UAMIC221-13	Upis ceramboides	UAMIC355-13	2.1406727
Xestia alaskae	UAMIC3345-15	Xestia alaskae	UAMIC482-13	2.1406727
Dropephylla longula	UAMIC2298-14	Dropephylla longula	UAMIC2345-14	2
Oedothorax alascensis	UAMIC1318-13	Oedothorax alascensis	UAMIC1631-13	1.9877676
Oedothorax alascensis	UAMIC1318-13	Oedothorax alascensis	UAMIC1319-13	1.9877676
Pardosa hyperborea	UAMIC1458-13	Pardosa hyperborea	UAMIC1481-13	1.9323671
Atrecus macrocephalus	UAMIC135-13	Atrecus macrocephalus	UAMIC2890-15	1.923077
Volucella bombylans	UAMIC3367-15	Volucella bombylans	UAMIC3366-15	1.8867924
Plectrura spinicauda	UAMIC168-13	Plectrura spinicauda	UAMIC2246-14	1.860465
Colias tyche	UAMIC446-13	Colias tyche	UAMIC443-13	1.843318
Planolinus tenellus	UAMIC2562-15	Planolinus tenellus	UAMIC2563-15	1.8376722
Agyneta manni	UAMIC1672-13	Agyneta manni	UAMIC1688-13	1.8348624
Lygus rugulipennis	UAMIC2079-14	Lygus rugulipennis	UAMIC2034-14	1.8348624
Pardosa albomaculata	UAMIC1453-13	Pardosa albomaculata	UAMIC1455-13	1.8348624
Planolinus tenellus	UAMIC2563-15	Planolinus tenellus	UAMIC2564-15	1.8348624
Dolichopus rupestris	UAMIC859-13	Dolichopus rupestris	UAMIC858-13	1.8036073
Agrilus politus	UAMIC447-13	Agrilus politus	UAMIC212-13	1.7214397
Dermestes lardarius	UAMIC139-13	Dermestes lardarius	UAMIC2882-15	1.7054263
Hippodamia parenthesis	UAMIC332-13	Hippodamia parenthesis	UAMIC204-13	1.6975307
Plectrura spinicauda	UAMIC168-13	Plectrura spinicauda	UAMIC254-13	1.6845329

<i>Hadrotus crassus</i>	UAMIC2868-15	<i>Hadrotus crassus</i>	UAMIC1074-13	1.6819572
<i>Lepidophorus lineaticollis</i>	UAMIC211-13	<i>Lepidophorus lineaticollis</i>	UAMIC415-13	1.6819572
<i>Ligyrocorys sylvestris</i>	UAMIC1947-14	<i>Ligyrocorys sylvestris</i>	UAMIC1909-14	1.6819572
<i>Nephrotoma ferruginea</i>	UAMIC1112-13	<i>Nephrotoma ferruginea</i>	UAMIC1113-13	1.6819572
<i>Steremnius carinatus</i>	UAMIC151-13	<i>Steremnius carinatus</i>	UAMIC248-13	1.6819572
<i>Hylurgops rugipennis</i>	UAMIC2197-14	<i>Hylurgops rugipennis</i>	UAMIC2208-14	1.5414258
<i>Pseudohylesinus tsugae</i>	UAMIC160-13	<i>Pseudohylesinus tsugae</i>	UAMIC2215-14	1.540832
<i>Plectrura spinicauda</i>	UAMIC168-13	<i>Plectrura spinicauda</i>	UAMIC2259-14	1.5313935
<i>Olophrum consimile</i>	UAMIC1840-14	<i>Olophrum consimile</i>	UAMIC1902-14	1.529052
<i>Olophrum consimile</i>	UAMIC1840-14	<i>Olophrum consimile</i>	UAMIC1892-14	1.529052
<i>Pardosa dorsuncata</i>	UAMIC1514-13	<i>Pardosa dorsuncata</i>	UAMIC1430-13	1.4563107
<i>Dysstroma hersiliata</i>	UAMIC3108-15	<i>Dysstroma hersiliata</i>	UAMIC3147-15	1.4285715
<i>Erebia pawloskii</i>	UAMIC3227-15	<i>Erebia pawloskii</i>	UAMIC3242-15	1.4150944
<i>Atrecus macrocephalus</i>	UAMIC432-13	<i>Atrecus macrocephalus</i>	UAMIC2890-15	1.4109347
<i>Plectrura spinicauda</i>	UAMIC254-13	<i>Plectrura spinicauda</i>	UAMIC2246-14	1.3953488
<i>Allomengea scopigera</i>	UAMIC1618-13	<i>Allomengea scopigera</i>	UAMIC1620-13	1.3761468
<i>Dendroctonus rufipennis</i>	UAMIC2232-14	<i>Dendroctonus rufipennis</i>	UAMIC2278-14	1.3761468
<i>Diacheila polita</i>	UAMIC1837-14	<i>Diacheila polita</i>	UAMIC1816-14	1.3761468
<i>Gnaphosa borea</i>	UAMIC1586-13	<i>Gnaphosa borea</i>	UAMIC1595-13	1.3761468
<i>Hadrotus crassus</i>	UAMIC2878-15	<i>Hadrotus crassus</i>	UAMIC2868-15	1.3761468
<i>Loricera pilicornis</i>	UAMIC288-13	<i>Loricera pilicornis</i>	UAMIC014-12	1.3761468
<i>Nebria nivalis</i>	UAMIC080-12	<i>Nebria nivalis</i>	UAMIC298-13	1.3761468
<i>Olophrum consimile</i>	UAMIC1902-14	<i>Olophrum consimile</i>	UAMIC1870-14	1.3761468
<i>Olophrum consimile</i>	UAMIC1892-14	<i>Olophrum consimile</i>	UAMIC1822-14	1.3761468
<i>Olophrum consimile</i>	UAMIC1892-14	<i>Olophrum consimile</i>	UAMIC1902-14	1.3761468
<i>Olophrum consimile</i>	UAMIC1840-14	<i>Olophrum consimile</i>	UAMIC1822-14	1.3761468
<i>Olophrum consimile</i>	UAMIC1817-14	<i>Olophrum consimile</i>	UAMIC1892-14	1.3761468
<i>Olophrum consimile</i>	UAMIC1817-14	<i>Olophrum consimile</i>	UAMIC1840-14	1.3761468
<i>Pardosa groenlandica</i>	UAMIC1463-13	<i>Pardosa groenlandica</i>	UAMIC1450-13	1.3761468
<i>Pardosa groenlandica</i>	UAMIC1510-13	<i>Pardosa groenlandica</i>	UAMIC1450-13	1.3761468
<i>Protholpia holmbergi</i>	UAMIC263-13	<i>Protholpia holmbergi</i>	UAMIC171-13	1.3761468
<i>Dolichopus longicornis</i>	UAMIC891-13	<i>Dolichopus longicornis</i>	UAMIC887-13	1.3400335
<i>Pterostichus brevicornis</i>	UAMIC010-12	<i>Pterostichus brevicornis</i>	UAMIC364-13	1.2944984
<i>Boloria chariclea</i>	UAMIC3204-15	<i>Boloria chariclea</i>	UAMIC487-13	1.2820513
<i>Boloria chariclea</i>	UAMIC3246-15	<i>Boloria chariclea</i>	UAMIC487-13	1.2820513
<i>Euxoa campestris</i>	UAMIC519-13	<i>Euxoa campestris</i>	UAMIC3070-15	1.275917
<i>Boloria chariclea</i>	UAMIC3204-15	<i>Boloria chariclea</i>	UAMIC488-13	1.2698413
<i>Boloria chariclea</i>	UAMIC3246-15	<i>Boloria chariclea</i>	UAMIC488-13	1.2698413
<i>Dendroctonus rufipennis</i>	UAMIC2232-14	<i>Dendroctonus rufipennis</i>	UAMIC2206-14	1.263823
<i>Olophrum latum</i>	UAMIC108-13	<i>Olophrum latum</i>	UAMIC1829-14	1.263823
<i>Euxoa campestris</i>	UAMIC518-13	<i>Euxoa campestris</i>	UAMIC3070-15	1.2519562
<i>Plectrura spinicauda</i>	UAMIC2259-14	<i>Plectrura spinicauda</i>	UAMIC2246-14	1.2403101
<i>Lioon simplicipes</i>	UAMIC1107-13	<i>Lioon simplicipes</i>	UAMIC1101-13	1.2288786
<i>Acidota quadrata</i>	UAMIC2496-15	<i>Acidota quadrata</i>	UAMIC2508-15	1.2232417
<i>Acidota quadrata</i>	UAMIC2496-15	<i>Acidota quadrata</i>	UAMIC2532-15	1.2232417
<i>Botanophila rubrigena</i>	UAMIC1035-13	<i>Botanophila rubrigena</i>	UAMIC1036-13	1.2232417
<i>Cyclosa conica</i>	UAMIC1496-13	<i>Cyclosa conica</i>	UAMIC1522-13	1.2232417
<i>Cyclosa conica</i>	UAMIC1489-13	<i>Cyclosa conica</i>	UAMIC1496-13	1.2232417
<i>Dicerca tenebrica</i>	UAMIC2389-14	<i>Dicerca tenebrica</i>	UAMIC2395-14	1.2232417
<i>Dicerca tenebrica</i>	UAMIC2463-14	<i>Dicerca tenebrica</i>	UAMIC2389-14	1.2232417
<i>Evarcha prozyskii</i>	UAMIC1641-13	<i>Evarcha prozyskii</i>	UAMIC1758-14	1.2232417
<i>Geocoris howardi</i>	UAMIC1991-14	<i>Geocoris howardi</i>	UAMIC1941-14	1.2232417
<i>Larinoides cornutus</i>	UAMIC1440-13	<i>Larinoides cornutus</i>	UAMIC1495-13	1.2232417
<i>Leptobunus borealis</i>	UAMIC1796-14	<i>Leptobunus borealis</i>	UAMIC1731-14	1.2232417

Monochamus scutellatus	UAMIC224-13	Monochamus scutellatus	UAMIC429-13	1.2232417
Olophrum consimile	UAMIC1817-14	Olophrum consimile	UAMIC1870-14	1.2232417
Dendrophagus cygnaei	UAMIC167-13	Dendrophagus cygnaei	UAMIC225-13	1.1647254
Xanthorhoe decoloraria	UAMIC566-13	Xanthorhoe decoloraria	UAMIC567-13	1.132686
Acidota quadrata	UAMIC1818-14	Acidota quadrata	UAMIC2508-15	1.1272142
Acidota quadrata	UAMIC1818-14	Acidota quadrata	UAMIC2532-15	1.1272142
Agroeca ornata	UAMIC1607-13	Agroeca ornata	UAMIC1530-13	1.1164274
Alypia langtoni	UAMIC645-13	Alypia langtoni	UAMIC3193-15	1.0703363
Anthocoris musculus	UAMIC2036-14	Anthocoris musculus	UAMIC599-13	1.0703363
Carabus truncaticollis	UAMIC1901-14	Carabus truncaticollis	UAMIC331-13	1.0703363
Clubiona riparia	UAMIC1574-13	Clubiona riparia	UAMIC1524-13	1.0703363
Dolichopus stenhammari	UAMIC876-13	Dolichopus stenhammari	UAMIC864-13	1.0703363
Dryocoetes affaber	UAMIC2277-14	Dryocoetes affaber	UAMIC278-13	1.0703363
Geocoris howardi	UAMIC1913-14	Geocoris howardi	UAMIC1941-14	1.0703363
Micaria aenea	UAMIC1587-13	Micaria aenea	UAMIC1580-13	1.0703363
Ochlerotatus excrucians	UAMIC913-13	Ochlerotatus excrucians	UAMIC912-13	1.0703363
Olophrum consimile	UAMIC1902-14	Olophrum consimile	UAMIC1822-14	1.0703363
Olophrum consimile	UAMIC1840-14	Olophrum consimile	UAMIC1870-14	1.0703363
Priognathus monilicornis	UAMIC257-13	Priognathus monilicornis	UAMIC238-13	1.0703363
Sthereus ptinoides	UAMIC220-13	Sthereus ptinoides	UAMIC1896-14	1.0703363
Sthereus ptinoides	UAMIC220-13	Sthereus ptinoides	UAMIC427-13	1.0703363
Tetanocera robusta	UAMIC3269-15	Tetanocera robusta	UAMIC1021-13	1.0703363
Thanatophilus sagax	UAMIC130-13	Thanatophilus sagax	UAMIC1087-13	1.0703363
Gonatium crassipalpum	UAMIC1282-13	Gonatium crassipalpum	UAMIC1275-13	0.990099
Stictopleurus punctiventris	UAMIC1944-14	Stictopleurus punctiventris	UAMIC1959-14	0.9852217
Araneus trifolium	UAMIC1474-13	Araneus trifolium	UAMIC1473-13	0.9803922
Araneus trifolium	UAMIC1474-13	Araneus trifolium	UAMIC1460-13	0.9803922
Evarcha proshynskii	UAMIC1641-13	Evarcha proshynskii	UAMIC1751-14	0.9803922
Agonum nigriceps	UAMIC365-13	Agonum nigriceps	UAMIC054-12	0.9771987
Hydriomena furcata	UAMIC543-13	Hydriomena furcata	UAMIC542-13	0.9661835
Amara patruelis	UAMIC2418-14	Amara patruelis	UAMIC2420-14	0.9584664
Hippodamia convergens	UAMIC2429-14	Hippodamia convergens	UAMIC2468-14	0.9389672
Aegialia criddlei	UAMIC2502-15	Aegialia criddlei	UAMIC2499-15	0.9174312
Aegialia criddlei	UAMIC2492-15	Aegialia criddlei	UAMIC2499-15	0.9174312
Agyneta perspicua	UAMIC1636-13	Agyneta perspicua	UAMIC1685-13	0.9174312
Amara patruelis	UAMIC1838-14	Amara patruelis	UAMIC2420-14	0.9174312
Canalidion montanum	UAMIC1231-13	Canalidion montanum	UAMIC1207-13	0.9174312
Cephaloon bicolor	UAMIC176-13	Cephaloon bicolor	UAMIC271-13	0.9174312
Chlamydatius keltoni	UAMIC2131-14	Chlamydatius keltoni	UAMIC2110-14	0.9174312
Collinsia holmgreni	UAMIC1287-13	Collinsia holmgreni	UAMIC1667-13	0.9174312
Collinsia ksenia	UAMIC1292-13	Collinsia ksenia	UAMIC1301-13	0.9174312
Dryocoetes affaber	UAMIC2277-14	Dryocoetes affaber	UAMIC170-13	0.9174312
Euxoa comosa	UAMIC3077-15	Euxoa comosa	UAMIC3103-15	0.9174312
Hippodamia convergens	UAMIC2429-14	Hippodamia convergens	UAMIC2452-14	0.9174312
Olophrum consimile	UAMIC1817-14	Olophrum consimile	UAMIC1822-14	0.9174312
Pityohyphantes cristatus	UAMIC1315-13	Pityohyphantes cristatus	UAMIC1242-13	0.9174312
Pterostichus pinguedineus	UAMIC065-12	Pterostichus pinguedineus	UAMIC012-12	0.9174312
Walckenaeria cornuella	UAMIC1691-13	Walckenaeria cornuella	UAMIC1669-13	0.9174312
Xysticus durus	UAMIC1794-14	Xysticus durus	UAMIC1722-14	0.9174312
Pterostichus amethystinus	UAMIC089-12	Pterostichus amethystinus	UAMIC360-13	0.8865249
Phloeonomus suffusus	UAMIC637-13	Phloeonomus suffusus	UAMIC631-13	0.8635579
Eutrichapion viciae	UAMIC124-13	Eutrichapion viciae	UAMIC416-13	0.8403362
Caelius montana	UAMIC2497-15	Caelius montana	UAMIC2495-15	0.8090615
Caelius montana	UAMIC2501-15	Caelius montana	UAMIC2497-15	0.8090615

Bembidion planatum	UAMIC003-12	Bembidion planatum	UAMIC373-13	0.805153
Elgiva sollicita	UAMIC3419-15	Elgiva sollicita	UAMIC3286-15	0.8038585
Amara patruelis	UAMIC2418-14	Amara patruelis	UAMIC1809-14	0.7987221
Amara patruelis	UAMIC2418-14	Amara patruelis	UAMIC2390-14	0.7987221
Anthocoris musculus	UAMIC2069-14	Anthocoris musculus	UAMIC2036-14	0.7974481
Chrysobothris trinervia	UAMIC391-13	Chrysobothris trinervia	UAMIC191-13	0.7751938
Carabus truncaticollis	UAMIC027-12	Carabus truncaticollis	UAMIC1901-14	0.770416
Chlamydatus keltoni	UAMIC2116-14	Chlamydatus keltoni	UAMIC2110-14	0.7668712
Pelegrina montana	UAMIC1725-14	Pelegrina montana	UAMIC1755-14	0.7656968
Agnypantes arboreus	UAMIC1267-13	Agnypantes arboreus	UAMIC1680-13	0.764526
Amara patruelis	UAMIC1838-14	Amara patruelis	UAMIC1809-14	0.764526
Amara patruelis	UAMIC1838-14	Amara patruelis	UAMIC2390-14	0.764526
Antherophagus suturalis	UAMIC2507-15	Antherophagus suturalis	UAMIC2491-15	0.764526
Chrysomela crotchii	UAMIC3388-15	Chrysomela crotchii	UAMIC3389-15	0.764526
Dicyrtoma maculosa	UAMIC944-13	Dicyrtoma maculosa	UAMIC943-13	0.764526
Eupithecia niphadophilata	UAMIC3087-15	Eupithecia niphadophilata	UAMIC3079-15	0.764526
Liparocephalus cordicollis	UAMIC424-13	Liparocephalus cordicollis	UAMIC131-13	0.764526
Misumena vatia	UAMIC1781-14	Misumena vatia	UAMIC1753-14	0.764526
Neoantistea magna	UAMIC1542-13	Neoantistea magna	UAMIC1556-13	0.764526
Olophrum consimile	UAMIC1817-14	Olophrum consimile	UAMIC1902-14	0.764526
Philodromus pernix	UAMIC1623-13	Philodromus pernix	UAMIC1578-13	0.764526
Suillia convergens	UAMIC3283-15	Suillia convergens	UAMIC3282-15	0.764526
Tetragnatha laboriosa	UAMIC1498-13	Tetragnatha laboriosa	UAMIC1741-14	0.764526
Tipula platymera	UAMIC1111-13	Tipula platymera	UAMIC1110-13	0.764526
Xestoleptura behrensii	UAMIC1092-13	Xestoleptura behrensii	UAMIC2242-14	0.764526
Xysticus britcheri	UAMIC1773-14	Xysticus britcheri	UAMIC1788-14	0.764526
Xysticus ellipticus	UAMIC1729-14	Xysticus ellipticus	UAMIC1750-14	0.764526
Pteromicra angustipennis	UAMIC3268-15	Pteromicra angustipennis	UAMIC3285-15	0.6568145
Trichodezia albiovittata	UAMIC498-13	Trichodezia albiovittata	UAMIC565-13	0.6535948
Micaria pulcaria	UAMIC1538-13	Micaria pulcaria	UAMIC1557-13	0.6504065
Elgiva sollicita	UAMIC3286-15	Elgiva sollicita	UAMIC3287-15	0.6410257
Amara patruelis	UAMIC2418-14	Amara patruelis	UAMIC2449-14	0.64
Xysticus chippewa	UAMIC1752-14	Xysticus chippewa	UAMIC1776-14	0.620155
Corticaria serrata	UAMIC3413-15	Corticaria serrata	UAMIC3411-15	0.6134969
Amara patruelis	UAMIC1838-14	Amara patruelis	UAMIC2449-14	0.6125575
Acidota quadrata	UAMIC2532-15	Acidota quadrata	UAMIC2508-15	0.6116208
Aeshna interrupta	UAMIC775-13	Aeshna interrupta	UAMIC776-13	0.6116208
Aleochara castaneipennis	UAMIC2542-15	Aleochara castaneipennis	UAMIC2559-15	0.6116208
Amara alpina	UAMIC1850-14	Amara alpina	UAMIC007-12	0.6116208
Amara alpina	UAMIC1898-14	Amara alpina	UAMIC007-12	0.6116208
Anthomyia mimetica	UAMIC1030-13	Anthomyia mimetica	UAMIC1029-13	0.6116208
Araneus nordmanni	UAMIC1434-13	Araneus nordmanni	UAMIC1468-13	0.6116208
Araneus trifolium	UAMIC1465-13	Araneus trifolium	UAMIC1473-13	0.6116208
Araneus trifolium	UAMIC1460-13	Araneus trifolium	UAMIC1465-13	0.6116208
Bathyphantes pallidus	UAMIC1670-13	Bathyphantes pallidus	UAMIC1687-13	0.6116208
Bembidion kuprianovii	UAMIC3408-15	Bembidion kuprianovii	UAMIC040-12	0.6116208
Caenis youngi	UAMIC931-13	Caenis youngi	UAMIC930-13	0.6116208
Chrysops excitans	UAMIC958-13	Chrysops excitans	UAMIC956-13	0.6116208
Eupeodes luniger	UAMIC3015-15	Eupeodes luniger	UAMIC3040-15	0.6116208
Hypogastrura helena	UAMIC951-13	Hypogastrura helena	UAMIC952-13	0.6116208
Judolia montivagans	UAMIC2387-14	Judolia montivagans	UAMIC2471-14	0.6116208
Libellula quadrimaculata	UAMIC767-13	Libellula quadrimaculata	UAMIC823-13	0.6116208
Liparocephalus brevipennis	UAMIC2748-15	Liparocephalus brevipennis	UAMIC2679-15	0.6116208
Notiophilus sylvaticus	UAMIC340-13	Notiophilus sylvaticus	UAMIC020-12	0.6116208

Philodromus praelustris	UAMIC1678-13	Philodromus praelustris	UAMIC1635-13	0.6116208
Phlaeopterus cavicolis	UAMIC2290-14	Phlaeopterus cavicolis	UAMIC2305-14	0.6116208
Plagiognathus brunneus	UAMIC2072-14	Plagiognathus brunneus	UAMIC2037-14	0.6116208
Suillia convergens	UAMIC3283-15	Suillia convergens	UAMIC3284-15	0.6116208
Tibellus maritimus	UAMIC1656-13	Tibellus maritimus	UAMIC1659-13	0.6116208
Lioligus nitidus	UAMIC1117-13	Lioligus nitidus	UAMIC1100-13	0.6
Campaea perlata	UAMIC539-13	Campaea perlata	UAMIC538-13	0.5235602
Thaumatomyia annulata	UAMIC895-13	Thaumatomyia annulata	UAMIC894-13	0.5025126
Javesella pellucida	UAMIC1967-14	Javesella pellucida	UAMIC584-13	0.4975124
Quedius pullmani	UAMIC1105-13	Quedius pullmani	UAMIC1127-13	0.4975124
Parnassius phoebus	UAMIC438-13	Parnassius phoebus	UAMIC3228-15	0.4950495
Cuerna striata	UAMIC1980-14	Cuerna striata	UAMIC1983-14	0.4926108
Cuerna striata	UAMIC1980-14	Cuerna striata	UAMIC1921-14	0.4926108
Stictopleurus punctiventris	UAMIC1944-14	Stictopleurus punctiventris	UAMIC1971-14	0.4926108
Tachinus apterus	UAMIC1866-14	Tachinus apterus	UAMIC1899-14	0.4926108
Pardosa palustris	UAMIC1435-13	Pardosa palustris	UAMIC1451-13	0.4901961
Mniusa yukonensis	UAMIC2689-15	Mniusa yukonensis	UAMIC2690-15	0.4885993
Plateumaris sp.	UAMIC2227-14	Plateumaris sp.	UAMIC2276-14	0.4878049
Xysticus obscurus	UAMIC1742-14	Xysticus obscurus	UAMIC1782-14	0.4830918
Elgiva sollicita	UAMIC3419-15	Elgiva sollicita	UAMIC3287-15	0.4823151
Hackmania prominula	UAMIC1575-13	Hackmania prominula	UAMIC1583-13	0.4761905
Pterostichus nivalis	UAMIC1888-14	Pterostichus nivalis	UAMIC1886-14	0.4761905
Bembidion compressum	UAMIC3417-15	Bembidion compressum	UAMIC3414-15	0.4672897
Polygraphus rufipennis	UAMIC2201-14	Polygraphus rufipennis	UAMIC2264-14	0.4651163
Plateumaris sp.	UAMIC2276-14	Plateumaris sp.	UAMIC2192-14	0.4608295
Adalia bipunctata	UAMIC2430-14	Adalia bipunctata	UAMIC2431-14	0.4587156
Adalia bipunctata	UAMIC2384-14	Adalia bipunctata	UAMIC2431-14	0.4587156
Aleochara castaneipennis	UAMIC2545-15	Aleochara castaneipennis	UAMIC2559-15	0.4587156
Araneus nordmanni	UAMIC1434-13	Araneus nordmanni	UAMIC1513-13	0.4587156
Callobius pictus	UAMIC1568-13	Callobius pictus	UAMIC1526-13	0.4587156
Cynomya mortuorum	UAMIC921-13	Cynomya mortuorum	UAMIC922-13	0.4587156
Dicheirotichus cognatus	UAMIC092-12	Dicheirotichus cognatus	UAMIC381-13	0.4587156
Dolichopus plumipes	UAMIC904-13	Dolichopus plumipes	UAMIC923-13	0.4587156
Dryocoetes affaber	UAMIC170-13	Dryocoetes affaber	UAMIC278-13	0.4587156
Enoplognatha intrepida	UAMIC1204-13	Enoplognatha intrepida	UAMIC1203-13	0.4587156
Gonioctena notmani	UAMIC2254-14	Gonioctena notmani	UAMIC2210-14	0.4587156
Gonioctena notmani	UAMIC2262-14	Gonioctena notmani	UAMIC2254-14	0.4587156
Hyposyinga pygmaea	UAMIC1444-13	Hyposyinga pygmaea	UAMIC1519-13	0.4587156
Irbisia sericans	UAMIC2159-14	Irbisia sericans	UAMIC2125-14	0.4587156
Larinioides patagiatus	UAMIC1499-13	Larinioides patagiatus	UAMIC1457-13	0.4587156
Larinioides patagiatus	UAMIC1499-13	Larinioides patagiatus	UAMIC1428-13	0.4587156
Lucilia illustris	UAMIC893-13	Lucilia illustris	UAMIC900-13	0.4587156
Melangyna arctica	UAMIC2980-15	Melangyna arctica	UAMIC2991-15	0.4587156
Melanoplus fasciatus	UAMIC585-13	Melanoplus fasciatus	UAMIC586-13	0.4587156
Mniusa yukonensis	UAMIC2715-15	Mniusa yukonensis	UAMIC2690-15	0.4587156
Nebria metallica	UAMIC300-13	Nebria metallica	UAMIC016-12	0.4587156
Opisthius richardsoni	UAMIC001-12	Opisthius richardsoni	UAMIC342-13	0.4587156
Parnassius phoebus	UAMIC439-13	Parnassius phoebus	UAMIC3228-15	0.4587156
Scaphinotus marginatus	UAMIC019-12	Scaphinotus marginatus	UAMIC311-13	0.4587156
Sphaerophoria philanthus	UAMIC3018-15	Sphaerophoria philanthus	UAMIC2960-15	0.4587156
Stictopleurus punctiventris	UAMIC1971-14	Stictopleurus punctiventris	UAMIC1959-14	0.4587156
Tunagyna debilis	UAMIC1357-13	Tunagyna debilis	UAMIC1363-13	0.4587156
Xysticus montanensis	UAMIC1802-14	Xysticus montanensis	UAMIC1748-14	0.4587156
Bembidion coloradense	UAMIC368-13	Bembidion coloradense	UAMIC039-12	0.3992016

Tipula limbata	UAMIC1114-13	Tipula limbata	UAMIC1115-13	0.3642987
Bombus melanopygus	UAMIC743-13	Bombus melanopygus	UAMIC744-13	0.3442341
Araniella displicata	UAMIC1504-13	Araniella displicata	UAMIC1442-13	0.3436426
Philaenarcys bilineata	UAMIC1962-14	Philaenarcys bilineata	UAMIC1932-14	0.3378379
Philaenarcys bilineata	UAMIC1939-14	Philaenarcys bilineata	UAMIC1962-14	0.3378379
Plagiognathus brunneus	UAMIC2072-14	Plagiognathus brunneus	UAMIC2046-14	0.3333333
Bathyphantes reprobis	UAMIC1249-13	Bathyphantes reprobis	UAMIC1246-13	0.331675
Boloria freija	UAMIC497-13	Boloria freija	UAMIC3231-15	0.331675
Pteromicra angustipennis	UAMIC3268-15	Pteromicra angustipennis	UAMIC3270-15	0.3284072
Pristoceuthophilus cercalis	UAMIC836-13	Pristoceuthophilus cercalis	UAMIC710-13	0.3273323
Araneus trifolium	UAMIC1474-13	Araneus trifolium	UAMIC1465-13	0.3267974
Nabis inscriptus	UAMIC2020-14	Nabis inscriptus	UAMIC2064-14	0.3267974
Nicrophorus investigator	UAMIC099-13	Nicrophorus investigator	UAMIC330-13	0.3267974
Caelius browni	UAMIC174-13	Caelius browni	UAMIC318-13	0.3236246
Piratula insularis	UAMIC1566-13	Piratula insularis	UAMIC1432-13	0.3236246
Perizoma grandis	UAMIC506-13	Perizoma grandis	UAMIC1175-13	0.3231018
Plateumaris sp.	UAMIC2268-14	Plateumaris sp.	UAMIC2276-14	0.3231018
Javesella pellucida	UAMIC580-13	Javesella pellucida	UAMIC584-13	0.3205128
Callicorixa alaskensis	UAMIC2118-14	Callicorixa alaskensis	UAMIC2180-14	0.3189793
Scierus annectans	UAMIC2212-14	Scierus annectans	UAMIC2199-14	0.317965
Araneus marmoreus	UAMIC1505-13	Araneus marmoreus	UAMIC1479-13	0.3174603
Nicrophorus defodiens	UAMIC1880-14	Nicrophorus defodiens	UAMIC1825-14	0.3174603
Perizoma grandis	UAMIC505-13	Perizoma grandis	UAMIC1175-13	0.3174603
Lypoglossa angularis angularis	UAMIC2742-15	Lypoglossa angularis angularis	UAMIC2700-15	0.3100775
Lederia arctica	UAMIC251-13	Lederia arctica	UAMIC149-13	0.308642
Triarthron lecontei	UAMIC337-13	Triarthron lecontei	UAMIC172-13	0.308642
Carabus truncaticollis	UAMIC027-12	Carabus truncaticollis	UAMIC331-13	0.3081664
Hybomitra arpadi	UAMIC976-13	Hybomitra arpadi	UAMIC979-13	0.3072197
Stenodema trispinosa	UAMIC2063-14	Stenodema trispinosa	UAMIC2078-14	0.3072197
Stenodema trispinosa	UAMIC2051-14	Stenodema trispinosa	UAMIC2063-14	0.3072197
Clubiona moesta	UAMIC1540-13	Clubiona moesta	UAMIC1531-13	0.3062787
Coccinella septempunctata	UAMIC2411-14	Coccinella septempunctata	UAMIC2441-14	0.3062787
Coccinella septempunctata	UAMIC2453-14	Coccinella septempunctata	UAMIC2441-14	0.3062787
Aeshna sitchensis	UAMIC849-13	Aeshna sitchensis	UAMIC844-13	0.3058104
Agnocoris rubicundus	UAMIC2162-14	Agnocoris rubicundus	UAMIC2129-14	0.3058104
Agoliinus piceatus	UAMIC2498-15	Agoliinus piceatus	UAMIC2484-15	0.3058104
Agyneta olivacea	UAMIC1238-13	Agyneta olivacea	UAMIC1244-13	0.3058104
Arctosa alpigena	UAMIC1471-13	Arctosa alpigena	UAMIC1433-13	0.3058104
Bembidion quadriveolatum	UAMIC3410-15	Bembidion quadriveolatum	UAMIC035-12	0.3058104
Boloria grandis	UAMIC3253-15	Boloria grandis	UAMIC3237-15	0.3058104
Caelius montana	UAMIC2501-15	Caelius montana	UAMIC2495-15	0.3058104
Carabus chamissonis	UAMIC359-13	Carabus chamissonis	UAMIC029-12	0.3058104
Cheilosia laevis	UAMIC2971-15	Cheilosia laevis	UAMIC2970-15	0.3058104
Cheilosia latrans	UAMIC3003-15	Cheilosia latrans	UAMIC3037-15	0.3058104
Coccinella septempunctata	UAMIC2453-14	Coccinella septempunctata	UAMIC2411-14	0.3058104
Culiseta alaskaensis	UAMIC906-13	Culiseta alaskaensis	UAMIC905-13	0.3058104
Cyclosa conica	UAMIC1488-13	Cyclosa conica	UAMIC1522-13	0.3058104
Cyclosa conica	UAMIC1488-13	Cyclosa conica	UAMIC1489-13	0.3058104
Elasmotethus interstinctus	UAMIC577-13	Elasmotethus interstinctus	UAMIC571-13	0.3058104
Formica subaenescens	UAMIC703-13	Formica subaenescens	UAMIC704-13	0.3058104
Galerucella nymphaeae	UAMIC2190-14	Galerucella nymphaeae	UAMIC2194-14	0.3058104
Hadrotus crassus	UAMIC2878-15	Hadrotus crassus	UAMIC1074-13	0.3058104
Javesella pellucida	UAMIC584-13	Javesella pellucida	UAMIC1975-14	0.3058104
Liogluta trapezicollis	UAMIC2750-15	Liogluta trapezicollis	UAMIC2753-15	0.3058104

Micrurapteryx salicifoliella	UAMIC431-13	Micrurapteryx salicifoliella	UAMIC430-13	0.3058104
Nebria sahlbergii	UAMIC349-13	Nebria sahlbergii	UAMIC084-12	0.3058104
Nysius angustatus	UAMIC1996-14	Nysius angustatus	UAMIC1933-14	0.3058104
Olophrum consimile	UAMIC1870-14	Olophrum consimile	UAMIC1822-14	0.3058104
Ozyptila sincera	UAMIC1718-14	Ozyptila sincera	UAMIC1740-14	0.3058104
Pardosa xerampelina	UAMIC1555-13	Pardosa xerampelina	UAMIC1491-13	0.3058104
Philodromus placidus	UAMIC1666-13	Philodromus placidus	UAMIC1558-13	0.3058104
Phlaeopterus cavicollis	UAMIC2305-14	Phlaeopterus cavicollis	UAMIC2374-14	0.3058104
Phlaeopterus cavicollis	UAMIC2290-14	Phlaeopterus cavicollis	UAMIC2374-14	0.3058104
Platynus decentis	UAMIC440-13	Platynus decentis	UAMIC076-12	0.3058104
Pteromicra angustipennis	UAMIC3270-15	Pteromicra angustipennis	UAMIC3285-15	0.3058104
Punicealis hamata	UAMIC166-13	Punicealis hamata	UAMIC247-13	0.3058104
Serropalpus substriatus	UAMIC474-13	Serropalpus substriatus	UAMIC232-13	0.3058104
Steatoda borealis	UAMIC1223-13	Steatoda borealis	UAMIC1214-13	0.3058104
Sthereus ptinoides	UAMIC427-13	Sthereus ptinoides	UAMIC1896-14	0.3058104
Tetanocera silvatica	UAMIC3281-15	Tetanocera silvatica	UAMIC3280-15	0.3058104
Zelotes sula	UAMIC1598-13	Zelotes sula	UAMIC1539-13	0.3058104
Zicrona caerulea	UAMIC2007-14	Zicrona caerulea	UAMIC662-13	0.3058104
Bolitobius cingulatus	UAMIC1826-14	Bolitobius cingulatus	UAMIC1831-14	0.2020202
Neochthebius vandykei	UAMIC363-13	Neochthebius vandykei	UAMIC362-13	0.1984127
Bombus mixtus	UAMIC748-13	Bombus mixtus	UAMIC747-13	0.1980198
Chlorochroa rossiana	UAMIC2060-14	Chlorochroa rossiana	UAMIC597-13	0.1926782
Plebejus optilete	UAMIC3265-15	Plebejus optilete	UAMIC3226-15	0.1915709
Compsobata pallipes	UAMIC3033-15	Compsobata pallipes	UAMIC2988-15	0.1893939
Bembidion obscurellum	UAMIC2946-15	Bembidion obscurellum	UAMIC2448-14	0.1766785
Colias palaeno	UAMIC384-13	Colias palaeno	UAMIC437-13	0.1745201
Microneta viaria	UAMIC1461-13	Microneta viaria	UAMIC1425-13	0.174216
Bembidion nigripes	UAMIC3392-15	Bembidion nigripes	UAMIC3391-15	0.1730104
Dienerella filum	UAMIC3274-15	Dienerella filum	UAMIC3273-15	0.1730104
Javesella pellucida	UAMIC1967-14	Javesella pellucida	UAMIC580-13	0.1727116
Rhogogaster viridis	UAMIC830-13	Rhogogaster viridis	UAMIC766-13	0.1727116
Chlorochroa rossiana	UAMIC2060-14	Chlorochroa rossiana	UAMIC598-13	0.1724138
Chlorochroa rossiana	UAMIC2060-14	Chlorochroa rossiana	UAMIC2019-14	0.1724138
Chlorochroa rossiana	UAMIC2058-14	Chlorochroa rossiana	UAMIC2060-14	0.1724138
Bembidion obscurellum	UAMIC2946-15	Bembidion obscurellum	UAMIC2898-15	0.1703578
Diarsia esurialis	UAMIC559-13	Diarsia esurialis	UAMIC554-13	0.170068
Sciastes mentasta	UAMIC1346-13	Sciastes mentasta	UAMIC1625-13	0.1686341
Nabis inscriptus	UAMIC2064-14	Nabis inscriptus	UAMIC2013-14	0.1683502
Xysticus ferox	UAMIC1728-14	Xysticus ferox	UAMIC1801-14	0.1683502
Loricera decempunctata	UAMIC2859-15	Loricera decempunctata	UAMIC2936-15	0.1677852
Alydus eurinus	UAMIC1903-14	Alydus eurinus	UAMIC1963-14	0.1675042
Alydus eurinus	UAMIC1903-14	Alydus eurinus	UAMIC1949-14	0.1675042
Olethreutes glaciana	UAMIC462-13	Olethreutes glaciana	UAMIC465-13	0.1675042
Plagiognathus brunneus	UAMIC2037-14	Plagiognathus brunneus	UAMIC2046-14	0.1666667
Boreus borealis	UAMIC852-13	Boreus borealis	UAMIC853-13	0.1658375
Chiloxanthus stellatus	UAMIC2139-14	Chiloxanthus stellatus	UAMIC2154-14	0.1658375
Cicurina simplex	UAMIC1681-13	Cicurina simplex	UAMIC1657-13	0.1658375
Javesella pellucida	UAMIC1967-14	Javesella pellucida	UAMIC1975-14	0.1658375
Trapezonotus arenarius	UAMIC1946-14	Trapezonotus arenarius	UAMIC1954-14	0.1658375
Vespula acadica	UAMIC700-13	Vespula acadica	UAMIC668-13	0.1658375
Agnocoris rubicundus	UAMIC2129-14	Agnocoris rubicundus	UAMIC2161-14	0.1633987
Agnocoris rubicundus	UAMIC2162-14	Agnocoris rubicundus	UAMIC2161-14	0.1633987
Boreophilia nearctica	UAMIC2724-15	Boreophilia nearctica	UAMIC2729-15	0.1633987
Mniusa yukonensis	UAMIC2689-15	Mniusa yukonensis	UAMIC2715-15	0.1628664

Rheumaptera subhastata	UAMIC512-13	Rheumaptera subhastata	UAMIC513-13	0.1626016
Diarsia esurialis	UAMIC553-13	Diarsia esurialis	UAMIC554-13	0.1618123
Bembidion obscurellum	UAMIC2946-15	Bembidion obscurellum	UAMIC2391-14	0.1612903
Acidota quadrata	UAMIC1818-14	Acidota quadrata	UAMIC2496-15	0.1610306
Atrecus quadripennis	UAMIC1137-13	Atrecus quadripennis	UAMIC1881-14	0.1610306
Pelecomalium sp.	UAMIC2315-14	Pelecomalium sp.	UAMIC2365-14	0.1610306
Teloleuca bifasciata	UAMIC2128-14	Teloleuca bifasciata	UAMIC2111-14	0.1602564
Amara patruelis	UAMIC2418-14	Amara patruelis	UAMIC1838-14	0.1597444
Pardosa uintana	UAMIC1536-13	Pardosa uintana	UAMIC1535-13	0.1594896
Synggrapha viridisigma	UAMIC530-13	Synggrapha viridisigma	UAMIC531-13	0.1594896
Araneus marmoreus	UAMIC1518-13	Araneus marmoreus	UAMIC1505-13	0.1587302
Callicorixa vulnerata	UAMIC2187-14	Callicorixa vulnerata	UAMIC2097-14	0.1587302
Plemyria georgii	UAMIC503-13	Plemyria georgii	UAMIC504-13	0.1587302
Dendroctonus rufipennis	UAMIC2206-14	Dendroctonus rufipennis	UAMIC2278-14	0.1579779
Pinalitus approximatus	UAMIC2049-14	Pinalitus approximatus	UAMIC2048-14	0.1579779
Apotomis removana	UAMIC3148-15	Apotomis removana	UAMIC3144-15	0.1572327
Pherbellia nana	UAMIC3308-15	Pherbellia nana	UAMIC3305-15	0.1572327
Pherbellia nana	UAMIC3308-15	Pherbellia nana	UAMIC3307-15	0.1572327
Selatosomus morulus	UAMIC406-13	Selatosomus morulus	UAMIC111-13	0.1572327
Lycaena dorcas	UAMIC3205-15	Lycaena dorcas	UAMIC3221-15	0.1564945
Carabus vietinghoffii	UAMIC307-13	Carabus vietinghoffii	UAMIC2467-14	0.1550388
Notaris aethiops	UAMIC453-13	Notaris aethiops	UAMIC242-13	0.1550388
Notaris aethiops	UAMIC143-13	Notaris aethiops	UAMIC242-13	0.1550388
Phlaeopterus houkai	UAMIC2373-14	Phlaeopterus houkai	UAMIC2310-14	0.154321
Bradycellus nigrinus	UAMIC032-12	Bradycellus nigrinus	UAMIC2871-15	0.1536098
Epuraea terminalis	UAMIC293-13	Epuraea terminalis	UAMIC214-13	0.1536098
Rhyncholus brunneus	UAMIC179-13	Rhyncholus brunneus	UAMIC275-13	0.1536098
Wyochernes asiaticus	UAMIC1720-14	Wyochernes asiaticus	UAMIC1734-14	0.1536098
Callicorixa vulnerata	UAMIC2121-14	Callicorixa vulnerata	UAMIC2187-14	0.1533742
Chlamydatius keltoni	UAMIC2116-14	Chlamydatius keltoni	UAMIC2131-14	0.1533742
Epiphanis cornutus	UAMIC457-13	Epiphanis cornutus	UAMIC142-13	0.1533742
Phalangium opilio	UAMIC1738-14	Phalangium opilio	UAMIC1797-14	0.1533742
Phalangium opilio	UAMIC1803-14	Phalangium opilio	UAMIC1738-14	0.1533742
Amara patruelis	UAMIC2449-14	Amara patruelis	UAMIC2420-14	0.1531394
Atheta circulicollis	UAMIC2660-15	Atheta circulicollis	UAMIC2661-15	0.1531394
Byturus unicolor	UAMIC2526-15	Byturus unicolor	UAMIC2527-15	0.1531394
Dictyoptera simplicipes	UAMIC154-13	Dictyoptera simplicipes	UAMIC246-13	0.1531394
Eana osseana	UAMIC3178-15	Eana osseana	UAMIC3090-15	0.1531394
Planolinus tenellus	UAMIC2562-15	Planolinus tenellus	UAMIC2564-15	0.1531394
Plectrura spinicauda	UAMIC2259-14	Plectrura spinicauda	UAMIC254-13	0.1531394
Saldula laticollis	UAMIC2117-14	Saldula laticollis	UAMIC2132-14	0.1531394
Agoliinus congregatus	UAMIC2515-15	Agoliinus congregatus	UAMIC2494-15	0.1529052
Agoliinus congregatus	UAMIC2514-15	Agoliinus congregatus	UAMIC2494-15	0.1529052
Agoliinus congregatus	UAMIC2512-15	Agoliinus congregatus	UAMIC2494-15	0.1529052
Agoliinus congregatus	UAMIC2500-15	Agoliinus congregatus	UAMIC2494-15	0.1529052
Agoliinus congregatus	UAMIC2493-15	Agoliinus congregatus	UAMIC2494-15	0.1529052
Agonum affine	UAMIC005-12	Agonum affine	UAMIC450-13	0.1529052
Agonum gratiosum	UAMIC095-12	Agonum gratiosum	UAMIC454-13	0.1529052
Aleochara castaneipennis	UAMIC2545-15	Aleochara castaneipennis	UAMIC2542-15	0.1529052
Amara obesa	UAMIC455-13	Amara obesa	UAMIC062-12	0.1529052
Amara patruelis	UAMIC1809-14	Amara patruelis	UAMIC2420-14	0.1529052
Amara patruelis	UAMIC2390-14	Amara patruelis	UAMIC2420-14	0.1529052
Apamea sora	UAMIC3176-15	Apamea sora	UAMIC3083-15	0.1529052
Apotomis removana	UAMIC3146-15	Apotomis removana	UAMIC3148-15	0.1529052

Araneus marmoreus	UAMIC1518-13	Araneus marmoreus	UAMIC1479-13	0.1529052
Araneus nordmanni	UAMIC1468-13	Araneus nordmanni	UAMIC1513-13	0.1529052
Bembidion curtulatum	UAMIC038-12	Bembidion curtulatum	UAMIC367-13	0.1529052
Bembidion yukonum	UAMIC034-12	Bembidion yukonum	UAMIC366-13	0.1529052
Boloria grandis	UAMIC3237-15	Boloria grandis	UAMIC3248-15	0.1529052
Boloria grandis	UAMIC3253-15	Boloria grandis	UAMIC3248-15	0.1529052
Boloria grandis	UAMIC3364-15	Boloria grandis	UAMIC3237-15	0.1529052
Boloria grandis	UAMIC3364-15	Boloria grandis	UAMIC3253-15	0.1529052
Bombus frigidus	UAMIC735-13	Bombus frigidus	UAMIC734-13	0.1529052
Bombus occidentalis	UAMIC751-13	Bombus occidentalis	UAMIC752-13	0.1529052
Bombus perplexus	UAMIC741-13	Bombus perplexus	UAMIC742-13	0.1529052
Botanophila spinidens	UAMIC1028-13	Botanophila spinidens	UAMIC1032-13	0.1529052
Callicorixa audeni	UAMIC2143-14	Callicorixa audeni	UAMIC2109-14	0.1529052
Callicorixa audeni	UAMIC2126-14	Callicorixa audeni	UAMIC2143-14	0.1529052
Campsicnemus degener	UAMIC883-13	Campsicnemus degener	UAMIC878-13	0.1529052
Carabus vietinghoffii	UAMIC022-12	Carabus vietinghoffii	UAMIC2467-14	0.1529052
Cheilosia borealis	UAMIC993-13	Cheilosia borealis	UAMIC992-13	0.1529052
Cheilosia yukonensis	UAMIC2959-15	Cheilosia yukonensis	UAMIC3039-15	0.1529052
Cixius meridionalis	UAMIC574-13	Cixius meridionalis	UAMIC624-13	0.1529052
Clinocera nivalis	UAMIC1045-13	Clinocera nivalis	UAMIC1046-13	0.1529052
Coenosia pilosissima	UAMIC3030-15	Coenosia pilosissima	UAMIC2952-15	0.1529052
Dolichopus remipes	UAMIC899-13	Dolichopus remipes	UAMIC896-13	0.1529052
Drassodes mirus	UAMIC1561-13	Drassodes mirus	UAMIC1548-13	0.1529052
Dryocoetes autographus	UAMIC182-13	Dryocoetes autographus	UAMIC2281-14	0.1529052
Dryocoetes autographus	UAMIC2266-14	Dryocoetes autographus	UAMIC2281-14	0.1529052
Eana osseana	UAMIC3185-15	Eana osseana	UAMIC3090-15	0.1529052
Elaphrus americanus	UAMIC1830-14	Elaphrus americanus	UAMIC058-12	0.1529052
Eupeodes curtus	UAMIC2965-15	Eupeodes curtus	UAMIC2957-15	0.1529052
Formica neorufibarbis	UAMIC683-13	Formica neorufibarbis	UAMIC693-13	0.1529052
Formica podzolica	UAMIC686-13	Formica podzolica	UAMIC687-13	0.1529052
Galerucella nymphaeae	UAMIC2243-14	Galerucella nymphaeae	UAMIC2194-14	0.1529052
Galerucella nymphaeae	UAMIC2190-14	Galerucella nymphaeae	UAMIC2243-14	0.1529052
Geocoris howardi	UAMIC1913-14	Geocoris howardi	UAMIC1991-14	0.1529052
Gerris incognitus	UAMIC2106-14	Gerris incognitus	UAMIC2119-14	0.1529052
Gerris incognitus	UAMIC2106-14	Gerris incognitus	UAMIC2120-14	0.1529052
Hesperia comma	UAMIC3220-15	Hesperia comma	UAMIC3422-15	0.1529052
Hydrellia griseola	UAMIC1010-13	Hydrellia griseola	UAMIC1009-13	0.1529052
Hyppa contrasta	UAMIC3183-15	Hyppa contrasta	UAMIC3190-15	0.1529052
Hypsoyinga rubens	UAMIC1486-13	Hypsoyinga rubens	UAMIC1469-13	0.1529052
Icaricia saepiolus	UAMIC3208-15	Icaricia saepiolus	UAMIC3263-15	0.1529052
Liogluta trapezicollis	UAMIC2753-15	Liogluta trapezicollis	UAMIC2740-15	0.1529052
Liogluta trapezicollis	UAMIC2696-15	Liogluta trapezicollis	UAMIC2753-15	0.1529052
Liogluta trapezicollis	UAMIC2750-15	Liogluta trapezicollis	UAMIC2740-15	0.1529052
Liogluta trapezicollis	UAMIC2750-15	Liogluta trapezicollis	UAMIC2696-15	0.1529052
Melanophthalma helvola	UAMIC3330-15	Melanophthalma helvola	UAMIC3331-15	0.1529052
Melanoplus borealis	UAMIC712-13	Melanoplus borealis	UAMIC711-13	0.1529052
Microprosopa pallidicauda	UAMIC3024-15	Microprosopa pallidicauda	UAMIC2999-15	0.1529052
Mitopus morio	UAMIC1756-14	Mitopus morio	UAMIC1743-14	0.1529052
Mniotype tenera	UAMIC1173-13	Mniotype tenera	UAMIC3062-15	0.1529052
Nebria frigida	UAMIC294-13	Nebria frigida	UAMIC081-12	0.1529052
Neon reticulatus	UAMIC1739-14	Neon reticulatus	UAMIC1806-14	0.1529052
Ochlerotatus sticticus	UAMIC875-13	Ochlerotatus sticticus	UAMIC901-13	0.1529052
Oxyporus occipitalis	UAMIC195-13	Oxyporus occipitalis	UAMIC196-13	0.1529052
Papilio canadensis	UAMIC388-13	Papilio canadensis	UAMIC460-13	0.1529052

Parastichtis suspecta	UAMIC3063-15	Parastichtis suspecta	UAMIC3162-15	0.1529052
Parastichtis suspecta	UAMIC3156-15	Parastichtis suspecta	UAMIC3162-15	0.1529052
Patrobus foveocollis	UAMIC051-12	Patrobus foveocollis	UAMIC434-13	0.1529052
Phalangium opilio	UAMIC1804-14	Phalangium opilio	UAMIC1797-14	0.1529052
Phalangium opilio	UAMIC1803-14	Phalangium opilio	UAMIC1804-14	0.1529052
Philhygra jarmilae	UAMIC2805-15	Philhygra jarmilae	UAMIC2772-15	0.1529052
Philhygra jarmilae	UAMIC2805-15	Philhygra jarmilae	UAMIC2806-15	0.1529052
Philonthus politus	UAMIC417-13	Philonthus politus	UAMIC125-13	0.1529052
Philonthus politus	UAMIC2910-15	Philonthus politus	UAMIC417-13	0.1529052
Phlaeopterus houkae	UAMIC2369-14	Phlaeopterus houkae	UAMIC2373-14	0.1529052
Pinalitus approximatus	UAMIC2050-14	Pinalitus approximatus	UAMIC2048-14	0.1529052
Placusa vaga	UAMIC2794-15	Placusa vaga	UAMIC2764-15	0.1529052
Polia nimbosa	UAMIC3049-15	Polia nimbosa	UAMIC3080-15	0.1529052
Prepops nigripilus	UAMIC2000-14	Prepops nigripilus	UAMIC2076-14	0.1529052
Prepops nigripilus	UAMIC2000-14	Prepops nigripilus	UAMIC2001-14	0.1529052
Protophormia terraenovae	UAMIC865-13	Protophormia terraenovae	UAMIC902-13	0.1529052
Pterostichus adstrictus	UAMIC013-12	Pterostichus adstrictus	UAMIC313-13	0.1529052
Rhagium inquisitor	UAMIC177-13	Rhagium inquisitor	UAMIC273-13	0.1529052
Scaphinotus angusticollis	UAMIC026-12	Scaphinotus angusticollis	UAMIC312-13	0.1529052
Scoliocentra fraterna	UAMIC1001-13	Scoliocentra fraterna	UAMIC999-13	0.1529052
Scolopostethus thomsoni	UAMIC1990-14	Scolopostethus thomsoni	UAMIC1964-14	0.1529052
Sicya macularia	UAMIC3065-15	Sicya macularia	UAMIC3068-15	0.1529052
Sigara decoratella	UAMIC2112-14	Sigara decoratella	UAMIC2104-14	0.1529052
Sigara fallenoidea	UAMIC2170-14	Sigara fallenoidea	UAMIC2157-14	0.1529052
Sisicottus panopeus	UAMIC1368-13	Sisicottus panopeus	UAMIC1407-13	0.1529052
Sitona lineellus	UAMIC422-13	Sitona lineellus	UAMIC218-13	0.1529052
Stenodema pilosipes	UAMIC2031-14	Stenodema pilosipes	UAMIC2061-14	0.1529052
Suillia convergens	UAMIC3282-15	Suillia convergens	UAMIC3284-15	0.1529052
Syntomus americanus	UAMIC394-13	Syntomus americanus	UAMIC064-12	0.1529052
Teloleuca bifasciata	UAMIC2128-14	Teloleuca bifasciata	UAMIC2148-14	0.1529052
Tetanocera fuscinervis	UAMIC3262-15	Tetanocera fuscinervis	UAMIC3407-15	0.1529052
Tipula aleutica	UAMIC1122-13	Tipula aleutica	UAMIC1123-13	0.1529052
Xestia finatimis	UAMIC3112-15	Xestia finatimis	UAMIC3101-15	0.1529052
Xylena thoracica	UAMIC3153-15	Xylena thoracica	UAMIC3166-15	0.1529052
Xylota subfasciata	UAMIC3020-15	Xylota subfasciata	UAMIC3019-15	0.1529052
Xysticus canadensis	UAMIC1721-14	Xysticus canadensis	UAMIC1791-14	0.1529052
Abagrotis placida	UAMIC3084-15	Abagrotis placida	UAMIC3114-15	0
Acmaeops proteus	UAMIC2458-14	Acmaeops proteus	UAMIC2404-14	0
Acmaeops proteus	UAMIC2408-14	Acmaeops proteus	UAMIC2404-14	0
Acmaeops proteus	UAMIC2408-14	Acmaeops proteus	UAMIC2458-14	0
Acruliopsis tumidula	UAMIC2296-14	Acruliopsis tumidula	UAMIC2335-14	0
Actebia fennica	UAMIC3071-15	Actebia fennica	UAMIC3072-15	0
Adalia bipunctata	UAMIC2384-14	Adalia bipunctata	UAMIC2430-14	0
Adelphocoris rapidus	UAMIC2173-14	Adelphocoris rapidus	UAMIC2185-14	0
Adelphocoris rapidus	UAMIC2108-14	Adelphocoris rapidus	UAMIC2185-14	0
Adelphocoris rapidus	UAMIC2108-14	Adelphocoris rapidus	UAMIC2173-14	0
Aegialia criddlei	UAMIC2492-15	Aegialia criddlei	UAMIC2502-15	0
Aelia americana	UAMIC596-13	Aelia americana	UAMIC602-13	0
Aeshna eremita	UAMIC839-13	Aeshna eremita	UAMIC842-13	0
Aeshna juncea	UAMIC837-13	Aeshna juncea	UAMIC785-13	0
Aeshna septentrionalis	UAMIC787-13	Aeshna septentrionalis	UAMIC786-13	0
Aeshna subarctica	UAMIC789-13	Aeshna subarctica	UAMIC788-13	0
Agoliinus congregatus	UAMIC2514-15	Agoliinus congregatus	UAMIC2515-15	0
Agoliinus congregatus	UAMIC2512-15	Agoliinus congregatus	UAMIC2515-15	0

Agoliinus congregatus	UAMIC2512-15	Agoliinus congregatus	UAMIC2514-15	0
Agoliinus congregatus	UAMIC2500-15	Agoliinus congregatus	UAMIC2515-15	0
Agoliinus congregatus	UAMIC2500-15	Agoliinus congregatus	UAMIC2514-15	0
Agoliinus congregatus	UAMIC2500-15	Agoliinus congregatus	UAMIC2512-15	0
Agoliinus congregatus	UAMIC2493-15	Agoliinus congregatus	UAMIC2515-15	0
Agoliinus congregatus	UAMIC2493-15	Agoliinus congregatus	UAMIC2514-15	0
Agoliinus congregatus	UAMIC2493-15	Agoliinus congregatus	UAMIC2512-15	0
Agoliinus congregatus	UAMIC2493-15	Agoliinus congregatus	UAMIC2500-15	0
Agoliinus leopardus	UAMIC2513-15	Agoliinus leopardus	UAMIC2516-15	0
Agonum cupreum	UAMIC071-12	Agonum cupreum	UAMIC291-13	0
Agrotis vancouverensis	UAMIC3179-15	Agrotis vancouverensis	UAMIC3099-15	0
Aleochara sp.	UAMIC2567-15	Aleochara sp.	UAMIC2506-15	0
Alopecosa aculeata	UAMIC1446-13	Alopecosa aculeata	UAMIC1482-13	0
Alydus calcaratus	UAMIC1958-14	Alydus calcaratus	UAMIC1945-14	0
Alydus eurinus	UAMIC1949-14	Alydus eurinus	UAMIC1963-14	0
Amara alpina	UAMIC1898-14	Amara alpina	UAMIC1850-14	0
Amara glacialis	UAMIC009-12	Amara glacialis	UAMIC055-12	0
Amara interstitialis	UAMIC1890-14	Amara interstitialis	UAMIC1808-14	0
Amara lunicollis	UAMIC2885-15	Amara lunicollis	UAMIC2927-15	0
Amara lunicollis	UAMIC2867-15	Amara lunicollis	UAMIC2927-15	0
Amara lunicollis	UAMIC2867-15	Amara lunicollis	UAMIC2885-15	0
Amara patruelis	UAMIC2390-14	Amara patruelis	UAMIC1809-14	0
Amara patruelis	UAMIC2449-14	Amara patruelis	UAMIC1809-14	0
Amara patruelis	UAMIC2449-14	Amara patruelis	UAMIC2390-14	0
Amara torrida	UAMIC290-13	Amara torrida	UAMIC074-12	0
Amblopusa nr. brevipes	UAMIC2522-15	Amblopusa nr. brevipes	UAMIC2521-15	0
Amblopusa nr. brevipes	UAMIC2519-15	Amblopusa nr. brevipes	UAMIC2521-15	0
Amblopusa nr. brevipes	UAMIC2519-15	Amblopusa nr. brevipes	UAMIC2522-15	0
Ampedus apicatus	UAMIC412-13	Ampedus apicatus	UAMIC128-13	0
Anania funebris	UAMIC3172-15	Anania funebris	UAMIC3180-15	0
Anaplectoides prasina	UAMIC3116-15	Anaplectoides prasina	UAMIC3045-15	0
Anaplectoides pressus	UAMIC3189-15	Anaplectoides pressus	UAMIC3093-15	0
Anaspis rufa	UAMIC234-13	Anaspis rufa	UAMIC233-13	0
Andropolia contacta	UAMIC561-13	Andropolia contacta	UAMIC549-13	0
Anteon osborni	UAMIC715-13	Anteon osborni	UAMIC716-13	0
Anthocoris musculus	UAMIC2069-14	Anthocoris musculus	UAMIC599-13	0
Apamea cogitata	UAMIC558-13	Apamea cogitata	UAMIC557-13	0
Apis mellifera	UAMIC723-13	Apis mellifera	UAMIC724-13	0
Apotomis removana	UAMIC3146-15	Apotomis removana	UAMIC3144-15	0
Apotomis tertiana	UAMIC3143-15	Apotomis tertiana	UAMIC3151-15	0
Araeopidius monachus	UAMIC157-13	Araeopidius monachus	UAMIC475-13	0
Araneus saevus	UAMIC1493-13	Araneus saevus	UAMIC1470-13	0
Araneus trifolium	UAMIC1460-13	Araneus trifolium	UAMIC1473-13	0
Arctobius agelenoides	UAMIC1591-13	Arctobius agelenoides	UAMIC1567-13	0
Arctosa insignita	UAMIC1445-13	Arctosa insignita	UAMIC1464-13	0
Argenna obesa	UAMIC1570-13	Argenna obesa	UAMIC1571-13	0
Arphia conspersa	UAMIC589-13	Arphia conspersa	UAMIC582-13	0
Atractotomus cooperi	UAMIC2166-14	Atractotomus cooperi	UAMIC2168-14	0
Atractotomus cooperi	UAMIC2167-14	Atractotomus cooperi	UAMIC2168-14	0
Atractotomus cooperi	UAMIC2167-14	Atractotomus cooperi	UAMIC2166-14	0
Atrecus macrocephalus	UAMIC135-13	Atrecus macrocephalus	UAMIC432-13	0
Autalia truncatula	UAMIC2671-15	Autalia truncatula	UAMIC173-13	0
Autalia truncatula	UAMIC2666-15	Autalia truncatula	UAMIC173-13	0
Autalia truncatula	UAMIC2666-15	Autalia truncatula	UAMIC2671-15	0

<i>Autalia truncatula</i>	UAMIC2726-15	<i>Autalia truncatula</i>	UAMIC173-13	0
<i>Autalia truncatula</i>	UAMIC2726-15	<i>Autalia truncatula</i>	UAMIC2671-15	0
<i>Autalia truncatula</i>	UAMIC2726-15	<i>Autalia truncatula</i>	UAMIC2666-15	0
<i>Autographa buraetica</i>	UAMIC556-13	<i>Autographa buraetica</i>	UAMIC555-13	0
<i>Autographa pseudogamma</i>	UAMIC1145-13	<i>Autographa pseudogamma</i>	UAMIC3075-15	0
<i>Bathyphantes keeni</i>	UAMIC1662-13	<i>Bathyphantes keeni</i>	UAMIC1637-13	0
<i>Bembidion bimaculatum</i>	UAMIC3394-15	<i>Bembidion bimaculatum</i>	UAMIC3393-15	0
<i>Bembidion bimaculatum</i>	UAMIC3398-15	<i>Bembidion bimaculatum</i>	UAMIC3393-15	0
<i>Bembidion bimaculatum</i>	UAMIC3398-15	<i>Bembidion bimaculatum</i>	UAMIC3394-15	0
<i>Bembidion grapii</i>	UAMIC3412-15	<i>Bembidion grapii</i>	UAMIC3379-15	0
<i>Bembidion grapii</i>	UAMIC3401-15	<i>Bembidion grapii</i>	UAMIC3379-15	0
<i>Bembidion grapii</i>	UAMIC3401-15	<i>Bembidion grapii</i>	UAMIC3412-15	0
<i>Bembidion gratiosum</i>	UAMIC042-12	<i>Bembidion gratiosum</i>	UAMIC370-13	0
<i>Bembidion haruspex</i>	UAMIC2870-15	<i>Bembidion haruspex</i>	UAMIC2912-15	0
<i>Bembidion haruspex</i>	UAMIC2923-15	<i>Bembidion haruspex</i>	UAMIC2912-15	0
<i>Bembidion haruspex</i>	UAMIC2923-15	<i>Bembidion haruspex</i>	UAMIC2870-15	0
<i>Bembidion hastii</i>	UAMIC3402-15	<i>Bembidion hastii</i>	UAMIC3404-15	0
<i>Bembidion inaequale</i>	UAMIC3395-15	<i>Bembidion inaequale</i>	UAMIC3397-15	0
<i>Bembidion obscurellum</i>	UAMIC2391-14	<i>Bembidion obscurellum</i>	UAMIC2448-14	0
<i>Bembidion obscurellum</i>	UAMIC2898-15	<i>Bembidion obscurellum</i>	UAMIC2448-14	0
<i>Bembidion obscurellum</i>	UAMIC2898-15	<i>Bembidion obscurellum</i>	UAMIC2391-14	0
<i>Bembidion rusticum lenensoides</i>	UAMIC3416-15	<i>Bembidion rusticum lenensoide</i>	UAMIC3415-15	0
<i>Bembidion scopulinum</i>	UAMIC376-13	<i>Bembidion scopulinum</i>	UAMIC036-12	0
<i>Bembidion transparens</i>	UAMIC053-12	<i>Bembidion transparens</i>	UAMIC403-13	0
<i>Blaesoxipha atlantis</i>	UAMIC2989-15	<i>Blaesoxipha atlantis</i>	UAMIC2956-15	0
<i>Blaesoxipha sp.</i>	UAMIC3011-15	<i>Blaesoxipha sp.</i>	UAMIC2997-15	0
<i>Boloria chariclea</i>	UAMIC487-13	<i>Boloria chariclea</i>	UAMIC488-13	0
<i>Boloria chariclea</i>	UAMIC3246-15	<i>Boloria chariclea</i>	UAMIC3204-15	0
<i>Boloria grandis</i>	UAMIC3364-15	<i>Boloria grandis</i>	UAMIC3248-15	0
<i>Bombus ashtoni</i>	UAMIC740-13	<i>Bombus ashtoni</i>	UAMIC738-13	0
<i>Bombus ashtoni</i>	UAMIC739-13	<i>Bombus ashtoni</i>	UAMIC738-13	0
<i>Bombus ashtoni</i>	UAMIC739-13	<i>Bombus ashtoni</i>	UAMIC740-13	0
<i>Bombus bifarius</i>	UAMIC731-13	<i>Bombus bifarius</i>	UAMIC730-13	0
<i>Bombus centralis</i>	UAMIC746-13	<i>Bombus centralis</i>	UAMIC745-13	0
<i>Bombus insularis</i>	UAMIC732-13	<i>Bombus insularis</i>	UAMIC733-13	0
<i>Bombus jonellus</i>	UAMIC750-13	<i>Bombus jonellus</i>	UAMIC749-13	0
<i>Bombus moderatus</i>	UAMIC753-13	<i>Bombus moderatus</i>	UAMIC754-13	0
<i>Botanophila hucketti</i>	UAMIC994-13	<i>Botanophila hucketti</i>	UAMIC995-13	0
<i>Byturus unicolor</i>	UAMIC2527-15	<i>Byturus unicolor</i>	UAMIC2528-15	0
<i>Byturus unicolor</i>	UAMIC2526-15	<i>Byturus unicolor</i>	UAMIC2528-15	0
<i>Cabera exanthemata</i>	UAMIC533-13	<i>Cabera exanthemata</i>	UAMIC532-13	0
<i>Calathus ingratus</i>	UAMIC310-13	<i>Calathus ingratus</i>	UAMIC017-12	0
<i>Callicorixa audeni</i>	UAMIC2126-14	<i>Callicorixa audeni</i>	UAMIC2109-14	0
<i>Callicorixa vulnerata</i>	UAMIC2121-14	<i>Callicorixa vulnerata</i>	UAMIC2097-14	0
<i>Calliphora loewi</i>	UAMIC914-13	<i>Calliphora loewi</i>	UAMIC915-13	0
<i>Calliphora terraenovae</i>	UAMIC918-13	<i>Calliphora terraenovae</i>	UAMIC919-13	0
<i>Calliphora vomitoria</i>	UAMIC917-13	<i>Calliphora vomitoria</i>	UAMIC916-13	0
<i>Calvia quatuordecimguttata</i>	UAMIC266-13	<i>Calvia quatuordecimguttata</i>	UAMIC262-13	0
<i>Camnula pellucida</i>	UAMIC590-13	<i>Camnula pellucida</i>	UAMIC591-13	0
<i>Camponotus herculeanus</i>	UAMIC679-13	<i>Camponotus herculeanus</i>	UAMIC678-13	0
<i>Capsus cinctus</i>	UAMIC2134-14	<i>Capsus cinctus</i>	UAMIC2122-14	0
<i>Carabus nemoralis</i>	UAMIC639-13	<i>Carabus nemoralis</i>	UAMIC1885-14	0
<i>Carabus taedatus</i>	UAMIC025-12	<i>Carabus taedatus</i>	UAMIC338-13	0
<i>Carabus vietinghoffii</i>	UAMIC307-13	<i>Carabus vietinghoffii</i>	UAMIC022-12	0

Cartodere constricta	UAMIC3329-15	Cartodere constricta	UAMIC3332-15	0
Catoptria oregonica	UAMIC3089-15	Catoptria oregonica	UAMIC3104-15	0
Ceranemota fasciata	UAMIC3095-15	Ceranemota fasciata	UAMIC3094-15	0
Cheilosia bigelowi	UAMIC3038-15	Cheilosia bigelowi	UAMIC3013-15	0
Chersotis juncta	UAMIC3051-15	Chersotis juncta	UAMIC1174-13	0
Chloealtis abdominalis	UAMIC608-13	Chloealtis abdominalis	UAMIC607-13	0
Chlorochroa rossiana	UAMIC598-13	Chlorochroa rossiana	UAMIC597-13	0
Chlorochroa rossiana	UAMIC2019-14	Chlorochroa rossiana	UAMIC597-13	0
Chlorochroa rossiana	UAMIC2019-14	Chlorochroa rossiana	UAMIC598-13	0
Chlorochroa rossiana	UAMIC2058-14	Chlorochroa rossiana	UAMIC597-13	0
Chlorochroa rossiana	UAMIC2058-14	Chlorochroa rossiana	UAMIC598-13	0
Chlorochroa rossiana	UAMIC2058-14	Chlorochroa rossiana	UAMIC2019-14	0
Chrysops dawsoni	UAMIC981-13	Chrysops dawsoni	UAMIC959-13	0
Chrysops furcatus	UAMIC957-13	Chrysops furcatus	UAMIC965-13	0
Cicindela oregona	UAMIC018-12	Cicindela oregona	UAMIC289-13	0
Clepsid persicana	UAMIC464-13	Clepsid persicana	UAMIC463-13	0
Clubiona canadensis	UAMIC1604-13	Clubiona canadensis	UAMIC1579-13	0
Clubiona kulczynskii	UAMIC1573-13	Clubiona kulczynskii	UAMIC1614-13	0
Cnodacophora nasoni	UAMIC3008-15	Cnodacophora nasoni	UAMIC3006-15	0
Cnodacophora nasoni	UAMIC2955-15	Cnodacophora nasoni	UAMIC3006-15	0
Cnodacophora nasoni	UAMIC2955-15	Cnodacophora nasoni	UAMIC3008-15	0
Coccinella transversoguttata	UAMIC336-13	Coccinella transversoguttata	UAMIC206-13	0
Coccinella trifasciata	UAMIC208-13	Coccinella trifasciata	UAMIC354-13	0
Coenagrion angulatum	UAMIC771-13	Coenagrion angulatum	UAMIC790-13	0
Coenonympha tullia	UAMIC3292-15	Coenonympha tullia	UAMIC3247-15	0
Colias gigantea	UAMIC386-13	Colias gigantea	UAMIC387-13	0
Colias kluanensis	UAMIC3211-15	Colias kluanensis	UAMIC3235-15	0
Colias philodice	UAMIC385-13	Colias philodice	UAMIC3219-15	0
Coreorgonal monoceros	UAMIC1701-13	Coreorgonal monoceros	UAMIC1294-13	0
Corticaria impressa	UAMIC3344-15	Corticaria impressa	UAMIC3293-15	0
Crabro latipes	UAMIC718-13	Crabro latipes	UAMIC717-13	0
Crambus pascuella	UAMIC3174-15	Crambus pascuella	UAMIC3173-15	0
Craspedolepta alaskensis	UAMIC1936-14	Craspedolepta alaskensis	UAMIC1935-14	0
Ctenicera angusticollis	UAMIC636-13	Ctenicera angusticollis	UAMIC635-13	0
Cucujus clavipes	UAMIC1811-14	Cucujus clavipes	UAMIC1860-14	0
Cuerna striata	UAMIC1921-14	Cuerna striata	UAMIC1983-14	0
Cybaeopsis wabritaska	UAMIC1552-13	Cybaeopsis wabritaska	UAMIC1609-13	0
Cybaeus reticulatus	UAMIC1564-13	Cybaeus reticulatus	UAMIC1613-13	0
Cychrus tuberculatus	UAMIC030-12	Cychrus tuberculatus	UAMIC321-13	0
Cyclophora pendulinaria	UAMIC3074-15	Cyclophora pendulinaria	UAMIC1166-13	0
Cyclosa conica	UAMIC1489-13	Cyclosa conica	UAMIC1522-13	0
Cymatia americana	UAMIC2163-14	Cymatia americana	UAMIC2130-14	0
Cymatia americana	UAMIC2178-14	Cymatia americana	UAMIC2130-14	0
Cymatia americana	UAMIC2178-14	Cymatia americana	UAMIC2163-14	0
Deinopteroloma subcostatum	UAMIC638-13	Deinopteroloma subcostatum	UAMIC2347-14	0
Delia pilifemur	UAMIC1034-13	Delia pilifemur	UAMIC1031-13	0
Devia prospera	UAMIC2695-15	Devia prospera	UAMIC2683-15	0
Devia prospera	UAMIC2664-15	Devia prospera	UAMIC2683-15	0
Devia prospera	UAMIC2664-15	Devia prospera	UAMIC2695-15	0
Diarsia dislocata	UAMIC551-13	Diarsia dislocata	UAMIC552-13	0
Diarsia esurialis	UAMIC553-13	Diarsia esurialis	UAMIC559-13	0
Dicerca tenebrica	UAMIC2463-14	Dicerca tenebrica	UAMIC2395-14	0
Ditylus gracilis	UAMIC189-13	Ditylus gracilis	UAMIC284-13	0
Ditylus quadricollis	UAMIC282-13	Ditylus quadricollis	UAMIC187-13	0

<i>Dolichovespula arenaria</i>	UAMIC675-13	<i>Dolichovespula arenaria</i>	UAMIC676-13	0
<i>Dolichovespula maculata</i>	UAMIC725-13	<i>Dolichovespula maculata</i>	UAMIC726-13	0
<i>Dolichovespula norvegicoides</i>	UAMIC669-13	<i>Dolichovespula norvegicoides</i>	UAMIC671-13	0
<i>Dolichovespula norvegica</i>	UAMIC667-13	<i>Dolichovespula norvegica</i>	UAMIC670-13	0
<i>Dryocoetes autographus</i>	UAMIC2266-14	<i>Dryocoetes autographus</i>	UAMIC182-13	0
<i>Dysstroma citrata</i>	UAMIC535-13	<i>Dysstroma citrata</i>	UAMIC534-13	0
<i>Dytiscus circumcinctus</i>	UAMIC096-13	<i>Dytiscus circumcinctus</i>	UAMIC334-13	0
<i>Eana osseana</i>	UAMIC3185-15	<i>Eana osseana</i>	UAMIC3178-15	0
<i>Ecliptopera silaceata</i>	UAMIC540-13	<i>Ecliptopera silaceata</i>	UAMIC541-13	0
<i>Elaphrus lapponicus</i>	UAMIC002-12	<i>Elaphrus lapponicus</i>	UAMIC306-13	0
<i>Elasmucha lateralis</i>	UAMIC572-13	<i>Elasmucha lateralis</i>	UAMIC2088-14	0
<i>Emblethis vicarius</i>	UAMIC1911-14	<i>Emblethis vicarius</i>	UAMIC1973-14	0
<i>Emblethis vicarius</i>	UAMIC1930-14	<i>Emblethis vicarius</i>	UAMIC1973-14	0
<i>Emblethis vicarius</i>	UAMIC1930-14	<i>Emblethis vicarius</i>	UAMIC1911-14	0
<i>Enallagma annexum</i>	UAMIC813-13	<i>Enallagma annexum</i>	UAMIC809-13	0
<i>Enoplognatha marmorata</i>	UAMIC1226-13	<i>Enoplognatha marmorata</i>	UAMIC1201-13	0
<i>Enypia venata</i>	UAMIC647-13	<i>Enypia venata</i>	UAMIC646-13	0
<i>Epinotia solandriana</i>	UAMIC3160-15	<i>Epinotia solandriana</i>	UAMIC466-13	0
<i>Epirrita undulata</i>	UAMIC615-13	<i>Epirrita undulata</i>	UAMIC614-13	0
<i>Epistrophe grossulariae</i>	UAMIC2978-15	<i>Epistrophe grossulariae</i>	UAMIC2966-15	0
<i>Erebia disa</i>	UAMIC500-13	<i>Erebia disa</i>	UAMIC495-13	0
<i>Erebia rossii</i>	UAMIC492-13	<i>Erebia rossii</i>	UAMIC493-13	0
<i>Eremobina claudens</i>	UAMIC3111-15	<i>Eremobina claudens</i>	UAMIC3061-15	0
<i>Eremocoris borealis</i>	UAMIC1969-14	<i>Eremocoris borealis</i>	UAMIC1908-14	0
<i>Eriocampa ovata</i>	UAMIC826-13	<i>Eriocampa ovata</i>	UAMIC825-13	0
<i>Eriozona laxus</i>	UAMIC2993-15	<i>Eriozona laxus</i>	UAMIC3004-15	0
<i>Euchloe ausonides</i>	UAMIC3259-15	<i>Euchloe ausonides</i>	UAMIC3225-15	0
<i>Eucnecusum tenue</i>	UAMIC1849-14	<i>Eucnecusum tenue</i>	UAMIC1865-14	0
<i>Eudonia spenceri</i>	UAMIC3088-15	<i>Eudonia spenceri</i>	UAMIC3053-15	0
<i>Eulithis xylina</i>	UAMIC545-13	<i>Eulithis xylina</i>	UAMIC544-13	0
<i>Eurois astricta</i>	UAMIC563-13	<i>Eurois astricta</i>	UAMIC564-13	0
<i>Europiella decolor</i>	UAMIC2123-14	<i>Europiella decolor</i>	UAMIC2107-14	0
<i>Europiella decolor</i>	UAMIC2142-14	<i>Europiella decolor</i>	UAMIC2107-14	0
<i>Europiella decolor</i>	UAMIC2142-14	<i>Europiella decolor</i>	UAMIC2123-14	0
<i>Eustroma semiatrata</i>	UAMIC3067-15	<i>Eustroma semiatrata</i>	UAMIC3073-15	0
<i>Eutrichota tarsata</i>	UAMIC3021-15	<i>Eutrichota tarsata</i>	UAMIC2986-15	0
<i>Euxoa campestris</i>	UAMIC518-13	<i>Euxoa campestris</i>	UAMIC519-13	0
<i>Formica aserva</i>	UAMIC694-13	<i>Formica aserva</i>	UAMIC695-13	0
<i>Gazoryctra confusus</i>	UAMIC3355-15	<i>Gazoryctra confusus</i>	UAMIC663-13	0
<i>Gazoryctra confusus</i>	UAMIC3354-15	<i>Gazoryctra confusus</i>	UAMIC663-13	0
<i>Gazoryctra confusus</i>	UAMIC3354-15	<i>Gazoryctra confusus</i>	UAMIC3355-15	0
<i>Gazoryctra mathewi</i>	UAMIC3272-15	<i>Gazoryctra mathewi</i>	UAMIC3271-15	0
<i>Geocoris discopterus</i>	UAMIC1928-14	<i>Geocoris discopterus</i>	UAMIC1948-14	0
<i>Gerris buenoi</i>	UAMIC2183-14	<i>Gerris buenoi</i>	UAMIC2153-14	0
<i>Gerris buenoi</i>	UAMIC2096-14	<i>Gerris buenoi</i>	UAMIC2153-14	0
<i>Gerris buenoi</i>	UAMIC2096-14	<i>Gerris buenoi</i>	UAMIC2183-14	0
<i>Gerris incognitus</i>	UAMIC2120-14	<i>Gerris incognitus</i>	UAMIC2119-14	0
<i>Gerris pingreensis</i>	UAMIC2103-14	<i>Gerris pingreensis</i>	UAMIC2156-14	0
<i>Gerris pingreensis</i>	UAMIC2158-14	<i>Gerris pingreensis</i>	UAMIC2156-14	0
<i>Gerris pingreensis</i>	UAMIC2158-14	<i>Gerris pingreensis</i>	UAMIC2103-14	0
<i>Gluphisia severa</i>	UAMIC3133-15	<i>Gluphisia severa</i>	UAMIC3134-15	0
<i>Gnaphosa microps</i>	UAMIC1596-13	<i>Gnaphosa microps</i>	UAMIC1611-13	0
<i>Gnathacmaeops pratensis</i>	UAMIC2433-14	<i>Gnathacmaeops pratensis</i>	UAMIC2403-14	0
<i>Gonioctena notmani</i>	UAMIC2262-14	<i>Gonioctena notmani</i>	UAMIC2210-14	0

Grammoptera subargentata	UAMIC2439-14	Grammoptera subargentata	UAMIC2394-14	0
Grammoptera subargentata	UAMIC2443-14	Grammoptera subargentata	UAMIC2394-14	0
Grammoptera subargentata	UAMIC2443-14	Grammoptera subargentata	UAMIC2439-14	0
Graphiphora augur	UAMIC516-13	Graphiphora augur	UAMIC517-13	0
Gymnusa pseudovariegata	UAMIC2713-15	Gymnusa pseudovariegata	UAMIC2741-15	0
Habrosyne scripta	UAMIC3371-15	Habrosyne scripta	UAMIC3373-15	0
Halobisium occidentale	UAMIC1769-14	Halobisium occidentale	UAMIC1763-14	0
Harpalus laticeps	UAMIC390-13	Harpalus laticeps	UAMIC2864-15	0
Harpalus laticeps	UAMIC050-12	Harpalus laticeps	UAMIC2864-15	0
Harpalus laticeps	UAMIC050-12	Harpalus laticeps	UAMIC390-13	0
Helina cinerella	UAMIC2995-15	Helina cinerella	UAMIC2953-15	0
Hesperonemastoma modestum	UAMIC1780-14	Hesperonemastoma modestum	UAMIC1807-14	0
Heterarthrus nemoratus	UAMIC807-13	Heterarthrus nemoratus	UAMIC808-13	0
Hilaira herniosa	UAMIC1312-13	Hilaira herniosa	UAMIC1313-13	0
Hippodamia arctica	UAMIC428-13	Hippodamia arctica	UAMIC223-13	0
Hippodamia convergens	UAMIC2468-14	Hippodamia convergens	UAMIC2452-14	0
Hippodamia quinquesignata	UAMIC2380-14	Hippodamia quinquesignata	UAMIC2440-14	0
Hippodamia quinquesignata	UAMIC2412-14	Hippodamia quinquesignata	UAMIC2440-14	0
Hippodamia quinquesignata	UAMIC2412-14	Hippodamia quinquesignata	UAMIC2380-14	0
Hippodamia tredecimpunctata	UAMIC356-13	Hippodamia tredecimpunctata	UAMIC197-13	0
Homoeosoma phaeoboreas	UAMIC3130-15	Homoeosoma phaeoboreas	UAMIC3131-15	0
Hoppingiana hudsonica	UAMIC3380-15	Hoppingiana hudsonica	UAMIC3369-15	0
Hybomitra epistates	UAMIC962-13	Hybomitra epistates	UAMIC961-13	0
Hybomitra lurida	UAMIC977-13	Hybomitra lurida	UAMIC969-13	0
Hybomitra sexfasciata	UAMIC963-13	Hybomitra sexfasciata	UAMIC964-13	0
Hydrellia tenebricosa	UAMIC1042-13	Hydrellia tenebricosa	UAMIC1044-13	0
Hyles gallii	UAMIC483-13	Hyles gallii	UAMIC502-13	0
Hypnoidus bicolor	UAMIC423-13	Hypnoidus bicolor	UAMIC119-13	0
Hypnoidus rivularius	UAMIC109-13	Hypnoidus rivularius	UAMIC413-13	0
Hypsoosinga albobittata	UAMIC1476-13	Hypsoosinga albobittata	UAMIC1466-13	0
Ivielum sibiricum	UAMIC1370-13	Ivielum sibiricum	UAMIC1352-13	0
Javesella pellucida	UAMIC580-13	Javesella pellucida	UAMIC1975-14	0
Kleidocerys resedae	UAMIC1912-14	Kleidocerys resedae	UAMIC1979-14	0
Kleidocerys resedae	UAMIC1940-14	Kleidocerys resedae	UAMIC1979-14	0
Kleidocerys resedae	UAMIC1940-14	Kleidocerys resedae	UAMIC1912-14	0
Labops burmeisteri	UAMIC2089-14	Labops burmeisteri	UAMIC2084-14	0
Labops burmeisteri	UAMIC2057-14	Labops burmeisteri	UAMIC2084-14	0
Labops burmeisteri	UAMIC2057-14	Labops burmeisteri	UAMIC2089-14	0
Lacanobia radix	UAMIC3129-15	Lacanobia radix	UAMIC3127-15	0
Laemobothrion vulturis	UAMIC933-13	Laemobothrion vulturis	UAMIC932-13	0
Larinioides patagiatus	UAMIC1428-13	Larinioides patagiatus	UAMIC1457-13	0
Lasionycta perplexa	UAMIC3187-15	Lasionycta perplexa	UAMIC3191-15	0
Lasius alienus	UAMIC682-13	Lasius alienus	UAMIC681-13	0
Lasius pallitarsis	UAMIC685-13	Lasius pallitarsis	UAMIC684-13	0
Leistus ferruginosus	UAMIC339-13	Leistus ferruginosus	UAMIC024-12	0
Leptothorax canadensis	UAMIC709-13	Leptothorax canadensis	UAMIC708-13	0
Leucania dia	UAMIC3135-15	Leucania dia	UAMIC3126-15	0
Leucania dia	UAMIC522-13	Leucania dia	UAMIC3126-15	0
Leucania dia	UAMIC522-13	Leucania dia	UAMIC3135-15	0
Leucorrhinia glacialis	UAMIC795-13	Leucorrhinia glacialis	UAMIC794-13	0
Liogluta nitens	UAMIC2665-15	Liogluta nitens	UAMIC2701-15	0
Liogluta trapezicollis	UAMIC2696-15	Liogluta trapezicollis	UAMIC2740-15	0
Liotrichus sagitticollis	UAMIC630-13	Liotrichus sagitticollis	UAMIC629-13	0
Litholomia napaea	UAMIC3069-15	Litholomia napaea	UAMIC3167-15	0

Lithophane pexata	UAMIC3059-15	Lithophane pexata	UAMIC3097-15	0
Litomiris debilis	UAMIC2017-14	Litomiris debilis	UAMIC2071-14	0
Lonchoptera impicta	UAMIC3029-15	Lonchoptera impicta	UAMIC2973-15	0
Lygus punctatus	UAMIC2022-14	Lygus punctatus	UAMIC2045-14	0
Melanophila acuminata	UAMIC392-13	Melanophila acuminata	UAMIC264-13	0
Melanoplus frigidus	UAMIC603-13	Melanoplus frigidus	UAMIC604-13	0
Melanoplus sanguinipes	UAMIC605-13	Melanoplus sanguinipes	UAMIC606-13	0
Meligramma triangulifera	UAMIC3041-15	Meligramma triangulifera	UAMIC3042-15	0
Micaria rossica	UAMIC1537-13	Micaria rossica	UAMIC1581-13	0
Microlynyphia pusilla	UAMIC1410-13	Microlynyphia pusilla	UAMIC1394-13	0
Myrmica alaskensis	UAMIC702-13	Myrmica alaskensis	UAMIC701-13	0
Myrmica incompleta	UAMIC707-13	Myrmica incompleta	UAMIC706-13	0
Nabica flavomarginata	UAMIC1998-14	Nabica flavomarginata	UAMIC1999-14	0
Nabis americanoferus	UAMIC2075-14	Nabis americanoferus	UAMIC2039-14	0
Nabis inscriptus	UAMIC2020-14	Nabis inscriptus	UAMIC2013-14	0
Nebria acuta	UAMIC345-13	Nebria acuta	UAMIC341-13	0
Nebria gebleri	UAMIC348-13	Nebria gebleri	UAMIC350-13	0
Nebria lituyae	UAMIC344-13	Nebria lituyae	UAMIC343-13	0
Nebria mannerheimii	UAMIC347-13	Nebria mannerheimii	UAMIC346-13	0
Necrophilus hydrophiloides	UAMIC1863-14	Necrophilus hydrophiloides	UAMIC1814-14	0
Necrophilus hydrophiloides	UAMIC1864-14	Necrophilus hydrophiloides	UAMIC1814-14	0
Necrophilus hydrophiloides	UAMIC1864-14	Necrophilus hydrophiloides	UAMIC1863-14	0
Nehalennia irene	UAMIC768-13	Nehalennia irene	UAMIC770-13	0
Nemocestes incomptus	UAMIC3359-15	Nemocestes incomptus	UAMIC3362-15	0
Neoleria prominens	UAMIC991-13	Neoleria prominens	UAMIC990-13	0
Neolygus communis	UAMIC2054-14	Neolygus communis	UAMIC2035-14	0
Neothetalia nimia	UAMIC2842-15	Neothetalia nimia	UAMIC2830-15	0
Neothetalia pallitarsis	UAMIC2771-15	Neothetalia pallitarsis	UAMIC2779-15	0
Neothetalia pallitarsis	UAMIC2759-15	Neothetalia pallitarsis	UAMIC2779-15	0
Neothetalia pallitarsis	UAMIC2759-15	Neothetalia pallitarsis	UAMIC2771-15	0
Neothetalia pallitarsis	UAMIC2789-15	Neothetalia pallitarsis	UAMIC2779-15	0
Neothetalia pallitarsis	UAMIC2789-15	Neothetalia pallitarsis	UAMIC2771-15	0
Neothetalia pallitarsis	UAMIC2789-15	Neothetalia pallitarsis	UAMIC2759-15	0
Neothetalia pallitarsis	UAMIC2803-15	Neothetalia pallitarsis	UAMIC2779-15	0
Neothetalia pallitarsis	UAMIC2803-15	Neothetalia pallitarsis	UAMIC2771-15	0
Neothetalia pallitarsis	UAMIC2803-15	Neothetalia pallitarsis	UAMIC2759-15	0
Neothetalia pallitarsis	UAMIC2803-15	Neothetalia pallitarsis	UAMIC2789-15	0
Neottiglossa undata	UAMIC2086-14	Neottiglossa undata	UAMIC2065-14	0
Nerienne radiata	UAMIC1347-13	Nerienne radiata	UAMIC1392-13	0
Nicrophorus vespilloides	UAMIC314-13	Nicrophorus vespilloides	UAMIC2319-14	0
Nicrophorus vespilloides	UAMIC1835-14	Nicrophorus vespilloides	UAMIC2319-14	0
Nicrophorus vespilloides	UAMIC1835-14	Nicrophorus vespilloides	UAMIC314-13	0
Nicrophorus vespilloides	UAMIC2308-14	Nicrophorus vespilloides	UAMIC2319-14	0
Nicrophorus vespilloides	UAMIC2308-14	Nicrophorus vespilloides	UAMIC314-13	0
Nicrophorus vespilloides	UAMIC2308-14	Nicrophorus vespilloides	UAMIC1835-14	0
Noctua pronuba	UAMIC649-13	Noctua pronuba	UAMIC648-13	0
Notaris aethiops	UAMIC143-13	Notaris aethiops	UAMIC453-13	0
Notiophilus borealis	UAMIC1836-14	Notiophilus borealis	UAMIC1887-14	0
Notiophilus borealis	UAMIC1897-14	Notiophilus borealis	UAMIC1887-14	0
Notiophilus borealis	UAMIC1897-14	Notiophilus borealis	UAMIC1836-14	0
Notonecta kirbyi	UAMIC642-13	Notonecta kirbyi	UAMIC641-13	0
Ochlerotatus communis	UAMIC869-13	Ochlerotatus communis	UAMIC909-13	0
Ochlerotatus dantaesus	UAMIC910-13	Ochlerotatus dantaesus	UAMIC911-13	0
Ochlerotatus punctor	UAMIC866-13	Ochlerotatus punctor	UAMIC867-13	0

Ochtheophilus sp.	UAMIC2929-15	Ochtheophilus sp.	UAMIC2858-15	0
Oedothorax alascensis	UAMIC1631-13	Oedothorax alascensis	UAMIC1712-13	0
Oedothorax alascensis	UAMIC1319-13	Oedothorax alascensis	UAMIC1712-13	0
Oedothorax alascensis	UAMIC1319-13	Oedothorax alascensis	UAMIC1631-13	0
Oeneis jutta	UAMIC3223-15	Oeneis jutta	UAMIC480-13	0
Oeneis melissa	UAMIC3254-15	Oeneis melissa	UAMIC3201-15	0
Olethreutes costimaculana	UAMIC3181-15	Olethreutes costimaculana	UAMIC3184-15	0
Orgyia antiqua	UAMIC3276-15	Orgyia antiqua	UAMIC3277-15	0
Orthotaenia undulana	UAMIC470-13	Orthotaenia undulana	UAMIC469-13	0
Oxidus gracilis	UAMIC935-13	Oxidus gracilis	UAMIC934-13	0
Oxypoda irrasa	UAMIC2809-15	Oxypoda irrasa	UAMIC2774-15	0
Ozyptila arctica	UAMIC1767-14	Ozyptila arctica	UAMIC1686-13	0
Ozyptila arctica	UAMIC1749-14	Ozyptila arctica	UAMIC1686-13	0
Ozyptila arctica	UAMIC1749-14	Ozyptila arctica	UAMIC1767-14	0
Paranonychus brunneus	UAMIC1779-14	Paranonychus brunneus	UAMIC1732-14	0
Parastichtis suspecta	UAMIC3156-15	Parastichtis suspecta	UAMIC3063-15	0
Pardosa groenlandica	UAMIC1510-13	Pardosa groenlandica	UAMIC1463-13	0
Parnassius eversmanni	UAMIC3212-15	Parnassius eversmanni	UAMIC3239-15	0
Parnassius phoebus	UAMIC439-13	Parnassius phoebus	UAMIC438-13	0
Patrobis cinctus	UAMIC299-13	Patrobis cinctus	UAMIC093-12	0
Pelecomalium testaceum	UAMIC2321-14	Pelecomalium testaceum	UAMIC2357-14	0
Pelecomalium testaceum	UAMIC2344-14	Pelecomalium testaceum	UAMIC2357-14	0
Pelecomalium testaceum	UAMIC2344-14	Pelecomalium testaceum	UAMIC2321-14	0
Pellenes lapponicus	UAMIC1771-14	Pellenes lapponicus	UAMIC1762-14	0
Peritrechus convivus	UAMIC2026-14	Peritrechus convivus	UAMIC2018-14	0
Peritrechus convivus	UAMIC2056-14	Peritrechus convivus	UAMIC2018-14	0
Peritrechus convivus	UAMIC2056-14	Peritrechus convivus	UAMIC2026-14	0
Perizoma grandis	UAMIC506-13	Perizoma grandis	UAMIC505-13	0
Phalangium opilio	UAMIC1804-14	Phalangium opilio	UAMIC1738-14	0
Phalangium opilio	UAMIC1803-14	Phalangium opilio	UAMIC1797-14	0
Phellopsis porcata	UAMIC190-13	Phellopsis porcata	UAMIC1856-14	0
Pherbellia nana	UAMIC3307-15	Pherbellia nana	UAMIC3305-15	0
Philaenarcys bilineata	UAMIC1939-14	Philaenarcys bilineata	UAMIC1932-14	0
Philhygra jarmilae	UAMIC2806-15	Philhygra jarmilae	UAMIC2772-15	0
Philodromus cespitum	UAMIC1654-13	Philodromus cespitum	UAMIC1565-13	0
Philonthus boreas	UAMIC122-13	Philonthus boreas	UAMIC2863-15	0
Philonthus politus	UAMIC2910-15	Philonthus politus	UAMIC125-13	0
Phlaeopterus fusconiger	UAMIC1121-13	Phlaeopterus fusconiger	UAMIC1120-13	0
Phlaeopterus houkai	UAMIC2369-14	Phlaeopterus houkai	UAMIC2310-14	0
Phlaeopterus houkai	UAMIC2293-14	Phlaeopterus houkai	UAMIC2310-14	0
Phlaeopterus houkai	UAMIC2293-14	Phlaeopterus houkai	UAMIC2373-14	0
Phlaeopterus houkai	UAMIC2293-14	Phlaeopterus houkai	UAMIC2369-14	0
Phloeostiba lapponica	UAMIC2323-14	Phloeostiba lapponica	UAMIC2334-14	0
Pholcus phalangioides	UAMIC1300-13	Pholcus phalangioides	UAMIC1264-13	0
Phratora interstitialis	UAMIC449-13	Phratora interstitialis	UAMIC244-13	0
Pieris marginalis	UAMIC481-13	Pieris marginalis	UAMIC445-13	0
Pieris marginalis	UAMIC489-13	Pieris marginalis	UAMIC445-13	0
Pieris marginalis	UAMIC489-13	Pieris marginalis	UAMIC481-13	0
Pieris marginalis	UAMIC444-13	Pieris marginalis	UAMIC445-13	0
Pieris marginalis	UAMIC444-13	Pieris marginalis	UAMIC481-13	0
Pieris marginalis	UAMIC444-13	Pieris marginalis	UAMIC489-13	0
Pinalitus approximatus	UAMIC2050-14	Pinalitus approximatus	UAMIC2049-14	0
Pirata bryantae	UAMIC1437-13	Pirata bryantae	UAMIC1589-13	0
Piratula canadensis	UAMIC1508-13	Piratula canadensis	UAMIC1616-13	0

Placusa tacomae	UAMIC2816-15	Placusa tacomae	UAMIC2796-15	0
Placusa tacomae	UAMIC2795-15	Placusa tacomae	UAMIC2796-15	0
Placusa tacomae	UAMIC2795-15	Placusa tacomae	UAMIC2816-15	0
Plebejus idas	UAMIC3245-15	Plebejus idas	UAMIC3222-15	0
Plutella xylostella	UAMIC3303-15	Plutella xylostella	UAMIC3304-15	0
Polia purpurissata	UAMIC3182-15	Polia purpurissata	UAMIC3175-15	0
Polia richardsoni	UAMIC3169-15	Polia richardsoni	UAMIC3168-15	0
Porrhomma boreale	UAMIC1693-13	Porrhomma boreale	UAMIC1415-13	0
Prepops nigripilus	UAMIC2001-14	Prepops nigripilus	UAMIC2076-14	0
Protocalliphora bennetti	UAMIC2985-15	Protocalliphora bennetti	UAMIC2974-15	0
Protocalliphora tundrae	UAMIC890-13	Protocalliphora tundrae	UAMIC889-13	0
Protolampra rufipectus	UAMIC3102-15	Protolampra rufipectus	UAMIC3064-15	0
Pterostichus agonus	UAMIC1877-14	Pterostichus agonus	UAMIC1900-14	0
Pterostichus agonus	UAMIC1854-14	Pterostichus agonus	UAMIC1900-14	0
Pterostichus agonus	UAMIC1854-14	Pterostichus agonus	UAMIC1877-14	0
Pterostichus algidus	UAMIC086-12	Pterostichus algidus	UAMIC297-13	0
Pterostichus castaneus	UAMIC088-12	Pterostichus castaneus	UAMIC296-13	0
Pterostichus crenicollis	UAMIC028-12	Pterostichus crenicollis	UAMIC361-13	0
Pterostichus empetricola	UAMIC091-12	Pterostichus empetricola	UAMIC1839-14	0
Pterostichus sublaevis	UAMIC082-12	Pterostichus sublaevis	UAMIC295-13	0
Quedius fulvicollis	UAMIC104-13	Quedius fulvicollis	UAMIC2903-15	0
Reesa vespulae	UAMIC098-13	Reesa vespulae	UAMIC448-13	0
Rhaphium crassipes	UAMIC882-13	Rhaphium crassipes	UAMIC888-13	0
Rhaphium terminale	UAMIC884-13	Rhaphium terminale	UAMIC886-13	0
Rhinosimus viridiaeneus	UAMIC150-13	Rhinosimus viridiaeneus	UAMIC1867-14	0
Robertus arcticus	UAMIC1225-13	Robertus arcticus	UAMIC1227-13	0
Robertus crosbyi	UAMIC1233-13	Robertus crosbyi	UAMIC1759-14	0
Robertus fuscus	UAMIC1784-14	Robertus fuscus	UAMIC1218-13	0
Rugathodes aurantius	UAMIC1202-13	Rugathodes aurantius	UAMIC1230-13	0
Saldula nigrita	UAMIC2124-14	Saldula nigrita	UAMIC2136-14	0
Saldula saltatoria	UAMIC2099-14	Saldula saltatoria	UAMIC2155-14	0
Saldula saltatoria	UAMIC2093-14	Saldula saltatoria	UAMIC2155-14	0
Saldula saltatoria	UAMIC2093-14	Saldula saltatoria	UAMIC2099-14	0
Sciastes truncatus	UAMIC1366-13	Sciastes truncatus	UAMIC1709-13	0
Scopula frigidaria	UAMIC508-13	Scopula frigidaria	UAMIC509-13	0
Simplocaria metallica	UAMIC1876-14	Simplocaria metallica	UAMIC1855-14	0
Sitticus finschi	UAMIC1757-14	Sitticus finschi	UAMIC1754-14	0
Smerinthus cerisyi	UAMIC3119-15	Smerinthus cerisyi	UAMIC3132-15	0
Somatochlora hudsonica	UAMIC822-13	Somatochlora hudsonica	UAMIC824-13	0
Sonoma margemina	UAMIC1103-13	Sonoma margemina	UAMIC1104-13	0
Spargania magnoliata	UAMIC3085-15	Spargania magnoliata	UAMIC507-13	0
Speranza boreata	UAMIC3106-15	Speranza boreata	UAMIC3107-15	0
Stenodema trispinosa	UAMIC2051-14	Stenodema trispinosa	UAMIC2078-14	0
Steremnius tuberosus	UAMIC377-13	Steremnius tuberosus	UAMIC178-13	0
Sunira verberata	UAMIC1161-13	Sunira verberata	UAMIC521-13	0
Sunira verberata	UAMIC520-13	Sunira verberata	UAMIC521-13	0
Sunira verberata	UAMIC520-13	Sunira verberata	UAMIC1161-13	0
Sympetrum internum	UAMIC802-13	Sympetrum internum	UAMIC801-13	0
Syneta carinata	UAMIC2255-14	Syneta carinata	UAMIC2226-14	0
Syneta carinata	UAMIC2202-14	Syneta carinata	UAMIC2226-14	0
Syneta carinata	UAMIC2202-14	Syneta carinata	UAMIC2255-14	0
Syngrapha alias	UAMIC3082-15	Syngrapha alias	UAMIC3098-15	0
Syngrapha interrogationis	UAMIC3140-15	Syngrapha interrogationis	UAMIC3141-15	0
Syrphus ribesii	UAMIC3005-15	Syrphus ribesii	UAMIC2961-15	0

Tanyrhinus singularis	UAMIC327-13	Tanyrhinus singularis	UAMIC188-13	0
Tarphiota fucicola	UAMIC2844-15	Tarphiota fucicola	UAMIC2782-15	0
Tarphiota fucicola	UAMIC2783-15	Tarphiota fucicola	UAMIC2782-15	0
Tarphiota fucicola	UAMIC2783-15	Tarphiota fucicola	UAMIC2844-15	0
Tegenaria domestica	UAMIC1577-13	Tegenaria domestica	UAMIC1610-13	0
Teloleuca bifasciata	UAMIC2148-14	Teloleuca bifasciata	UAMIC2111-14	0
Teratocoris saundersi	UAMIC2085-14	Teratocoris saundersi	UAMIC2082-14	0
Tethina thula	UAMIC926-13	Tethina thula	UAMIC925-13	0
Thanatus formicinus	UAMIC1663-13	Thanatus formicinus	UAMIC1702-13	0
Thelaira bryanti	UAMIC1024-13	Thelaira bryanti	UAMIC1023-13	0
Tibellus asiaticus	UAMIC1664-13	Tibellus asiaticus	UAMIC1621-13	0
Tibellus oblongus	UAMIC1694-13	Tibellus oblongus	UAMIC1665-13	0
Tibioplus diversus	UAMIC1675-13	Tibioplus diversus	UAMIC1414-13	0
Tipula appendiculata	UAMIC1097-13	Tipula appendiculata	UAMIC1099-13	0
Tipula bergrothiana	UAMIC1060-13	Tipula bergrothiana	UAMIC1059-13	0
Tipula entomophthorae	UAMIC1017-13	Tipula entomophthorae	UAMIC1016-13	0
Trechus chalybeus	UAMIC037-12	Trechus chalybeus	UAMIC473-13	0
Trichadenotecnum majus	UAMIC3386-15	Trichadenotecnum majus	UAMIC3385-15	0
Trichophya pilicornis	UAMIC2827-15	Trichophya pilicornis	UAMIC2330-14	0
Trochosa terricola	UAMIC1601-13	Trochosa terricola	UAMIC1550-13	0
Trochosa terricola	UAMIC1484-13	Trochosa terricola	UAMIC1550-13	0
Trochosa terricola	UAMIC1484-13	Trochosa terricola	UAMIC1601-13	0
Trypodendron lineatum	UAMIC2198-14	Trypodendron lineatum	UAMIC2240-14	0
Trypodendron lineatum	UAMIC252-13	Trypodendron lineatum	UAMIC2237-14	0
Trypophloeus striatulus	UAMIC2251-14	Trypophloeus striatulus	UAMIC2224-14	0
Urocerus flavicornis	UAMIC777-13	Urocerus flavicornis	UAMIC829-13	0
Venusia cambrica	UAMIC3048-15	Venusia cambrica	UAMIC3076-15	0
Vespula alascensis	UAMIC714-13	Vespula alascensis	UAMIC674-13	0
Vespula rufa	UAMIC672-13	Vespula rufa	UAMIC705-13	0
Walckenaeria atrotibialis	UAMIC1356-13	Walckenaeria atrotibialis	UAMIC1705-13	0
Walckenaeria lepida	UAMIC1409-13	Walckenaeria lepida	UAMIC1391-13	0
Walckenaeria subspiralis	UAMIC1388-13	Walckenaeria subspiralis	UAMIC1671-13	0
Xestia c-nigrum	UAMIC529-13	Xestia c-nigrum	UAMIC528-13	0
Xestia oblata	UAMIC3047-15	Xestia oblata	UAMIC3188-15	0
Xestia perquiritata	UAMIC524-13	Xestia perquiritata	UAMIC525-13	0
Xestia smithii	UAMIC527-13	Xestia smithii	UAMIC611-13	0
Xestia tecta	UAMIC3163-15	Xestia tecta	UAMIC3154-15	0
Xylophagus fulgidus	UAMIC3009-15	Xylophagus fulgidus	UAMIC2964-15	0
Xylophagus fulgidus	UAMIC3010-15	Xylophagus fulgidus	UAMIC2964-15	0
Xylophagus fulgidus	UAMIC3010-15	Xylophagus fulgidus	UAMIC3009-15	0
Xysticus emertoni	UAMIC1774-14	Xysticus emertoni	UAMIC1727-14	0
Zelotes puritanus	UAMIC1608-13	Zelotes puritanus	UAMIC1554-13	0