Newsletter

of the

Alaska Entomological Society

Volume 5, Issue 1, March 2012

In this issue:

Border Survey Detects Live Insects in Firewood

by Mia Kirk[1] and James Kruse[2]

Figure 1: The Alcan border crossing during the 2011 firewood collection operation. Photo by Roger Burnside, AK DNR.

The Divisions of Agriculture and Forestry of the Alaska Department of Natural Resources (AK DNR) are conducting a firewood survey to evaluate pests associated with firewood imported into Alaska. This survey, funded by Section 10201 of the Farm Bill, will determine if nonnative insect pests survive in imported firewood. Firewood sampling started in the summer of 2011 and will continue during the summer of 2012 at the Alcan border station and multiple retail outlets throughout the State of Alaska.

In the summer of 2011, U.S. Customs and Border Protection (CBP), the USDA Forest Service, the Animal Plant Health Inspection Service (APHIS), and the AK DNR Divisions of Agriculture and Forestry conducted a cooperative survey effort at the Alcan land border (Figure 1). Arriving travelers were interviewed and vehicles were inspected for prohibited or restricted items, including firewood, plants, seeds, and vegetables that could be harmful if introduced into Alaska.

In addition, arriving travelers were informed of the firewood survey being conducted and samples were collected (Figure 2). A bundle of 'outside' firewood was exchanged with Alaska firewood bundled by the Boy Scouts. Collected firewood frequently displayed signs of insect activity and contained live insects (Figures 3 and 4). Firewood samples were placed into rearing chambers and then stored in a climate controlled facility where it was routinely checked for emerging insects (Figure 5).

Thus far, rearing chambers in this study have produced insects (beetles and flies), but insect identification is not yet complete. However, firewood samples originating from Washington State, purchased by FHP personnel in 2010 and 2011 in Fairbanks, yielded five species of beetle from four families (Table 1). Although some of these species are pre-

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viously recorded from Alaska, this work has shown that beetles are indeed being moved to Alaska from other states via firewood. Moreover, some of the individuals detected on wood from Washington were live female bark beetles, which present the most significant threat to Alaskan forests.

Figure 2: Roger Burnside (AK DNR) examines firewood transported in a private camper from the Alcan border crossing. Photo by Mia Kirk, AK DNR.

Figure 3: Chunk firewood from a camp in Canada, with *Monochamus* wood borer damage, intercepted at the Alcan border crossing in June 2011. Photo by Roger Burnside, AK DNR.

Figure 4: Trish Wurtz (FHP), Roger Burnside (AK DNR) and Jessica Mosley (CBP) examine intercepted biological material at the Alcan border. Photo by Mia Kirk, AK DNR.

Figure 5: A rearing chamber made from five-gallon plastic buckets, designed to capture wood borers emerging from firewood. Photo by Mia Kirk, AK DNR.

The firewood surveys help us identify potential invasive pest species, regions of origin, and introduction pathways in order to prepare and respond efficiently to potential threats.

These projects will be continued into the future and findings will be reported. The movement of firewood presents a real threat to Alaskan forests. The recent discovery of

Table 1: The species, family and status of insects reared from 2 cubic feet of firewood purchased in April 2011 at a local retailer in Fairbanks, Alaska. The firewood originated in the state of Washington. Almost 2 dozen insects were reared from the material, including individuals from genera known to kill trees.

Species	Family	Food Source(s)	Known in Fairbanks	Known in Alaska
Ips pini (Say)	Scolytidae	Herbivore -Feed on Pine Trees	No	Yes
Scolytus monticolae Swaine	Scolytidae	Herbivore -Feed on Pine Trees	No	No
Aulonium longum (LeConte)	Colydiidae	Predator - other invertebrates	No	No
Temnoscheila chlorodia (Mannerheim)	Trogossitidae	Predator - other invertebrates	No	No
Corticeus praetermissus (Fall)	Tenebrionidae	?	?	Yes

Asian longhorn beetle in Washington State (where some of the study firewood originated) highlights this fact, and emphasizes the importance of Early Detection and Rapid Response monitoring projects ongoing throughout the state. APHIS, CBP, and the AK DNR Divisions of Agriculture and Forestry, as well as FHP cooperators, will continue to work to improve detection and invasive pest prevention in Alaska.

Beetle Study Aims to Improve Slash Management in Alaska

by Roger Burnside[3]*, Christopher Fettig*[4]*, Christopher Hayes*[4]*, Mark Schultz*[5]*, and James Kruse*[2]

The northern spruce engraver, *Ips perturbatus*, is distributed throughout the boreal region of North America. It colonizes white and black spruce throughout Alaska, and Lutz spruce, a natural hybrid of white and Sitka spruce, on the Kenai Peninsula. This bark beetle is the primary mortality agent of white spruce in recently-disturbed areas in the Interior. If favorable climatic conditions coincide with large quantities of suitable host material (e.g., slash), northern spruce engraver populations may erupt, resulting in the mortality of apparently healthy trees over extensive areas.

In recent years, elevated levels of northern spruce engraver-caused tree mortality have resulted in increased efforts to develop suitable management techniques. Much of this work has concentrated on development of semiochemical-based tools. Semiochemicals are compounds that are produced by one organism that cause an effect, usually behavioral, on another organism. Little work, however, has been done to determine the effects of commonly used slash management techniques on northern spruce engraver performance in slash, and on the effectiveness of these techniques for minimizing levels of tree mortality in residual stands.

A cooperative research and demonstration project was initiated in early 2009 by the Alaska DNR Division of Forestry, in collaboration with the Pacific Southwest Research Station and Forest Health Protection (both USDA Forest Service). The goal of this project was to determine if time of cutting, distribution of slash (i.e., decked v. dispersed), or scoring of bark, impacts northern spruce engraver reproductive success and subsequent levels of beetle-caused tree mortality within residual stands. This work was sponsored by a USDA Forest Service grant from the Special Technology Development Program (STDP). The topic is particularly timely considering the multiple interacting threats that boreal forests of Alaska currently face, many of which have been demonstrated in published scientific studies to be exacerbated by climate change.

Field work and data sampling was anticipated to be completed on the STDP project in 2010. However, northern spruce engraver attack (and emergence) densities recorded in 2010 were much lower than anticipated in interior Alaska. This was likely due to higher than normal rainfall and cold periods during June and July, which greatly

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limited northern spruce engraver dispersal flights at all three study sites. To elucidate differences among treatments, it was necessary to reproduce the study treatments on a smaller spatial scale during 2011 using a baited system to ensure more even beetle pressure and more significant numbers of attacks. In other words, pheromone baits were used to attract beetles to the study site in sufficient numbers to allow us to differentiate beetle preferences among the slash treatments.

Figure 1: Log stacking and scoring treatments are installed near Tok in 2011 to evaluate differences in northern spruce engraver beetle attack density and reproductive success. Photo by Mark Schultz.

A second study using a baited design was executed near Tok (N63° 21.144', W142° 59.203') (Figure 1). Eight treatments were implemented during May 2011, and each consisted of 15 white spruce bolts (4.5 feet in length with small end diameters ≥3.5 inches and large end diameters ≤8.5 inches):

1. Decked and scored in fuel break
2. Decked and unscored in fuel break
3. Dispersed and scored in fuel break
4. Dispersed and unscored in fuel break
5. Decked and scored in forest
6. Decked and unscored in forest
7. Dispersed and scored in forest
8. Dispersed and unscored in forest

These treatments were sampled for northern spruce engraver (and other bark beetle) attack densities in late July and for northern spruce engraver (and other bark beetle) emergence hole densities in early September 2011. Preliminary analysis suggests that there is a relationship between slash treatment and northern spruce engraver bark beetle attack density (Fig.2) that may be exploited to minimize residual tree mortality in newly disturbed areas. Additional analyses comparing an earlier 2007 northern spruce engraver slash management demonstration project (described in USDA Forest Service, 2011) with results from the northern spruce engraver STDP project completed in 2011 (Burnside et al., 2011) may provide more clues on the utility of specific timing of cutting, slash handling and slash placement methods for mitigating northern spruce engraver populations after forest disturbance and/or forest management operations.

Little work has been done to determine what factors influence northern spruce engraver colonization and reproductive performance in logging slash, or to determine net impacts on residual stands. To date, Alaska forest health specialists have made recommendations based on anecdotal observations or data obtained for other *Ips* species and forest types in the Lower 48. Data provided from the current research and demonstration project in interior Alaska will facilitate development of slash management guidelines to be used by the Alaska Department of Natural Resources and Forest Health Protection during day-to-day forest management operations.

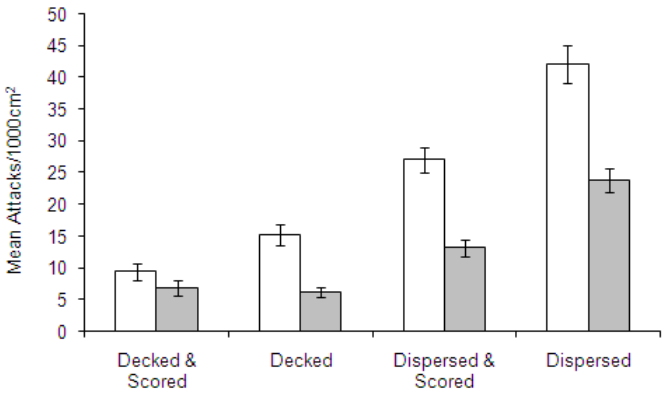

Figure 2: Preliminary comparisons of attack densities by *Ips perturbatus* among slash treatments on two different sites: (A) sheltered fuel break (light stocking of residual spruce seed trees; white bars), and (B) native spruce stand (gray bars). Attacks were recorded in a 25 cm "window" at the center of each log bolt. Bars represent mean ± standard error.

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My Life as a Forest Entomologist in Alaska

Mark E. Schultz

My entomology experience in Alaska was an extension of my experience and education elsewhere. I had wanted to come to Alaska in the early 1980's, but was not selected for the job I applied for. I mention this only because I was thinking about the forest types that I would encounter in Alaska some 15 years before I arrived.

As with many in my age group, an education in Forest Entomology involved coursework and experience in Forestry. I started my education in Forestry at UC Berkeley in 1968, spending summers working for the Forest Service. When I went back to Berkeley for my higher degrees and post-doctorate I had already spent quite a bit of time in different forestry jobs and wanted thesis projects that were more practical than basic. I worked alongside of professional entomologists that had the job that I dreamed of getting one day.

My first field trip was to Dall Island to survey on the western side. John Hard, retired Forest Service research entomolgist; Dustin Wittwer, biological techician now Regional Office GIS expert; Mike Sheet, Craig Ranger District; and a couple of others flew in one deHaviland Beaver to Dall Island each day from Craig. I was new to extra-tuff rainboots and hiking around in the temperate rain forests of southeast Alaska. We landed in Rose Inlet to meet up with the logging contractors for Sealaska Native Corp. We had to walk a slippery log ramp from the floatplane at low tide to the road above. I found myself 20 feet above the beach with a backpack on walking on slippery logs—quite scary from a dirt-forester who just came from the dry forests of New Mexico.

On the float plane ride over there were stories of the family that shipwrecked and spent some time on Dall Island until resued and the possibility of running into brown bears. When John Hard parted the eight foot tall devils club behind me, calling out "Bear! Bear!" without as much as an "it's me" from him, I began to realize that I was being tested and that John was a prankster. It was a fun trip worth remembering.

When I arrived in Juneau in 1996 (my immediate predecessor was Roy Mask and before him Andris Eglitis) as the entomologist for the southeast area of Alaska. Roy left copious notes about important contacts for doing the job. Paul Hennon, forest pathologist, was there to assist but had been tasked with answering entomology questions after Roy left, doing an excellent job, but happy to hand that work over to me.

Figure 1: Southeast Alaska Sitka spruce/Western Hemlock forest type.

There was a large spruce beetle outbreak, primarily in white spruce in forests on the Kenai Peninsula. Ed Holsten, Roger Burnside, Ken Zogas, and many others were the forest entomologists working on the scientific and public communication of the spruce beetle outbreak. There were smaller and shorter duration outbreak areas that I was working on in southeast Alaska in Sitka spruce. At the time, public affairs for the Forest Service and the state of Alaska had already been involved in press releases for this biggest bark beetle outbreak in the country. All of us learned about how to coordinate our public responses.

The spruce beetle outbreak brought Alaska into the modern age of cartography and environmental reporting. Funding for the insect and disease programs for the state

and federal governments increased significantly. This funding gave us an opportunity to discuss what entomology skills we needed in the state. Insect taxonomy was first on the list.

I first enjoyed answering public enquiries on entomology related issues that Ed, Roger, and Ken did not have time to research because of their intense involvement in spruce beetle. I had learned in California as a postdoc that being careful in how I talk to the press and the public helped insect and disease programs statewide but I did not shy away from trying to get the best answer I could for topics such as West Nile Virus.

I began to read about this epidemic as it was moving across the US from the east and how the migrating Corvid family of birds could possibly bring it to Alaska. Later, Jim Kruse, then at UAF, got involved in identifying which insect vectors might be important should West Nile Virus reach Alaska. The scare came and went (I was not aware of any significant state public health input at the time).

This experience and others showed me the value of insect species lists and the ready availability of those lists. I began to pay more attention to the southeast Alaska Forest Sciences Lab insect collection that had specimens collect in the 1950's identified by world renowned taxonomists. My entomology contacts at Berkeley and the Pacific Southwest Forest Experiment Station came in handy for answering many other questions that reoccurred in the west about exotic insects and forest pathogens.

My job became easier to perform with better internet resources and networking of entomologists. I have learned once again that supporting colleagues in all of their efforts is good for everyone. Much thanks to the University of Alaska Fairbanks and and University of Alaska Anchorage, Jim Kruse, Derek Sikes, and Matt Bowser. Anyone taking on this job should be versed in database management, the ability to investigate the best solutions to all entomology questions, and a desire to learn about the plants and animals of southeast Alaska. There are a number of citizen scientists that are willing to share ideas and nothing can replace the knowledge of people that live on the land.

Leggy! Live Spiders and their Relatives—a special exhibit in the University of Alaska Museum of the North, January 14 through May 5, 2012.

by Derek S. Sikes[6]

Figure 1: Ice sculpture outside of UA Museum of the North.

I'm definitely a "kill 'em and count 'em" entomologist. Most coleopterists tend to be because of the overwhelming number of beetle species and the limited time available to capture and process the inevitably large samples we end up with. Keeping insects alive in captivity is so much more complex and time consuming! So, when the special exhibits committee in the UA Museum decided that we should follow up our popular 2010 live butterfly pavilion (spearheaded by Dr. Laura Conner) with a live spider exhibit for 2012, I was, honestly, a little worried! I had kept a few species of easy-to-keep arthropods such as *Gromphadorhina portentosa* (Madagascar Hissing Roaches) alive as pets before, but I knew it wouldn't be easy to gather 20 interesting species for display and keep them alive for five months.

Fortunately I had expert help. The exhibits team in the museum, led by Steve Bouta, the senior preparator, and my own graduate student, Brandi Fleshman who had many years of experience keeping large arachnids as pets, ensured a high quality exhibit would result. Preparations began in late spring 2011 just before I left for a busy field season. There was the expected research on what other museums and zoos had done, phone calls with colleagues who had run, or knew people who had run, successful public exhibits of insects, the unpleasant task of filling out forms to obtain permits from USDA APHIS for certain herbivores,

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and various other concerns such as where to obtain the needed organisms and tanks for their display. Steve kept us all on schedule. Roger Topp, head of museum productions, spent time in the field with Brandi and I to produce video and audio of local "entomologists in action."

As the 2011 field season began to close and few organisms had been obtained, my anxiety levels grew. I had two species of cockroaches at home (*Gromphadorhina portentosa* and *Simandoa conserfariam*) and an undergraduate student entomolgist in training, Sayde Ridling, had coincidentally recently asked if I'd like to take possession of two tarantulas: a large bird-eater (*Lasiodora parahybana*) and a Venezuelan Suntiger (*Psalmopoeus irminia*). My daughter Nina had caught a subadult praying mantis (*Tenodera sinensis*) in Connecticut (but the mantis died before the exhibit opened—the adults only live a few months).

Figure 2: Leggy! exhibit entrance.

In September I placed an order with an insect dealer in Florida and had shipped a large tiger centipede (*Scolopendra polymorpha*), a pair of tailless whipscorpions (*Phrynus marginemaculatus*), and a desert blonde tarantula (*Aphonopelma chalcodes*). I was naturally a little worried about them traveling in the mail, and worried particularly about issues of shipping live animals during our Alaskan winters (so I wanted to get orders in before it got too cold).

It was with great happiness that I discovered while attending the annual meeting of the Entomological Society of America, in Reno during November, that the California based entomological supply company, BioQuip, now sells live (and pinned) arthropods! I quickly purchased a large dune scorpion (*Smeringurus mesaensis*), a gaggle (?) of tenebrionids (*Eleodes* sp.), some large millipeds (*Narceus* sp. / *Orthoporus* sp.), a huntsman spider (*Neosparassus* sp.). We were up to eleven species—only nine more to go!

By additional good fortune I have family in Reno and nearby Dixon, California. After the meeting, with the live precious cargo in my luggage, I enjoyed hunting some local Californian species with my father. His backyard yielded an abundance of the European earwigs (*Forficula auricularia*) and the equally anthrophilic 'rolly polly' (*Armadillidium vulgare*).

Figure 3: Wall of insect photographs.

I then decided to visit Dr. Phil Ward, myrmecologist extraordinaire at UC Davis to ask about where I might collect native ants. California is so thoroughly invaded by the invasive argentine ant (*Linepithema humile*) that most native species have been extirpated or reduced to rare drier pockets of less disturbed habitat. Phil told me about a small patch of habitat on the UC Davis campus that he said should have native ants. A half hour of searching yielded more earwigs and isopods, a few large millipeds, some additional tenebrionids, and finally, a large, aggressive nest of wood ants (*Formica moki*) in a rotting stump. I broke open the nest and swept as many of the rapidly running, biting ants into a plastic container as I could before escaping to safety.

Of course, I had to visit the UC Davis Bohart Museum of Entomology before leaving the campus. I chatted with Lynn Kimsey, hymenopterist and curator there, and she said I could take as many giant cockroaches (*Blaberus giganteus*) from their overflowing colony as I wanted! A productive day—I was up to 15 species.

Before flying back to Fairbanks I visited my cousins and Aunt who live in Reno. Being higher elevation and with recent snow I didn't expect to find much there. One of my cousins said he knew of a black widow that he said "had been eyeing him" in his yard that I could take. Excited, I grabbed a tuperware and went out with him to capture it. The spider turned out to be a look-alike widow, known as a false black widow (*Steatoda grossa*) and is less dangerous. Accompanied by my nephews and nieces we rolled rocks in the desert behind the house and found, under the last rock rolled (always under the last one!) an actual black widow (*Latrodectus hesperus*). This brought the total up to 17 species.

Figure 4: Photographs and other exhibit items.

Flying home to Fairbanks, which was experiencing a cold snap of about a week of -30°F to -40°F temperatures, increased my anxiety considerably. I had so many important species for the exhibit in my luggage that if they froze in the hold of the plane it would be a major setback. I was told by the Alaska Airline personnel I spoke to on the phone that I wasn't allowed to have these live arthropods in my carry-on luggage because once a scorpion had gotten loose in an overhead compartment! So I accepted the risk and crossed my fingers. Luckily, all but one of the large tropical roaches made the journey successfully.

Figure 5: Live arthropods in terrariums.

That left three species to go. One, the domestic cricket (*Acheta domesticus*), was readily available in town. We had to keep a colony of this species as food for the predators anyhow, and these crickets actually make an interesting display animal because the males are often posturing for territory and singing while the females often can be seen laying eggs in the soil. Species nineteen was a walking stick (*Carausius morosus*) from India that the USDA was particularly worried about since it had escaped into the wild in some places in the lower 48 and can breed parthenogenetically.

The final species, number 20, was the idea of Dr. Piotr Naskrecki, who we had invited to give an exhibit-opening presentation on his stunning new book 'Relics'. In promotion of his visit and book, which focused on organisms belonging to higher taxa of great evolutionary age with relatively few species (often called "living fossils"), we obtained a nice set of Horseshoe Crabs (*Limulus polyphemus*). There are only four species of Horseshoe Crabs left and they are most closely related to arachnids with whom they last shared genes over 500 million years ago. Setting up a marine tank for this species was certainly the most challenging of the species.

Piotr's visit and public presentation in January helped launch the exhibit, which received some good promotion and has since become popular with museum visitors. The exhibit itself has some interesting components: There are two cages, the bird eating tarantula and the earwigs, which have close-set video monitors that are attached to large buttons, when pressed by a visitor a video monitor above the cage turns on and shows the animal(s) in their hides. The earwigs in particular, which love to hide under stones and wood in nature, were a challenge. I decided to have the exhibits team cut a hole in the wooden stand under the glass cage and to put a wooden hiding place in the cage just above this hole. The video camera below the hole then can see the earwigs hiding. This has worked out well.

Figure 6: *Formica moki* with eggs. Photo by Theresa Bakker.

Another feature I'm quite pleased with is we built a darkened room for nocturnal species and provide visitors small flashlights they can use to find the display animals in the dark. A soundtrack of nocturnal insect calls makes the dark room feel all the more like a genuine night-hike in the forest. If I were a little boy again I know I'd love this! (Actually, I love it anyhow despite my age!). We also set up a UV light that visitors can turn on at the dune scorpion

cage which causes the scorpion to flouresce beautifully in the dark.

The exhibit also has a discover board, an interactive panel that children can open doors to see which insects occur where and how their legs help them survive. Although none of the live animals are Alaskan, the discover board and enlargements of my photos all depict Alaskan species. To add more interaction to the exhibit, my wife, Melissa Sikes, designed beautiful, and very leggy, costumes for children to wear—one of a centipede and one of a spider. Altogether, despite my initial anxiety and loss of sleep worrying about the health of all these leggy animals, the exhibit has been a joy to see in action. The museum team and my students, including Jill Stockbridge who tends the animals twice a week, have done an excellent job!

Collecting Arthropods in the Aleutian Islands

by Sayde K. Ridling[7]

Figure 1: The author collecting *Agelities* specimens from mid splash zone lichen covered rock.

When I arrived in the remote town of Adak, Alaska I expected only one thing: that this field expedition would be full of unexpected and new experiences for me. Three years ago in 2008, Kasatochi volcano erupted, presenting scientists with unprecedented opportunities to study succession. Several entomologists (myself included) from the University of Alaska Fairbanks decided to take advantage of this opportunity. To do so we needed not only specimens collected from Kasatochi Island but also specimens from the nearby Aleutian Islands. This summer I had been chosen along with Steve Peek, a fantastic volunteer at the University of Alaska Museum's entomology department, to collect several target organisms on these remote Aleutian Islands.

To do this we, first had to get to Adak, Alaska, both an island and a town. Adak is by far the strangest place I have ever been. Prior to landing we looked out over what was once a thriving military base complete with housing for thousands of people, ball parks, and even an old McDonalds. Today less than one hundred people live in Adak year round. One of these year round residents was a Fish and Wildlife officer named Lisa who met us at the airport. From there we loaded up all of our gear and were driven a couple of blocks to the bunkhouse, the only house-sized building that didn't look the same as the rows of overgrown "cookie-cutter" style houses. When we arrived at the Adak bunkhouse it was the thriving epicenter of scientific activity with every one of its twelve bunks filled as well as several rooms in a nearby house.

After dropping off our gear, we headed over to the grocery store which also acted as the town hall, gym, museum, post office, church, health center, elementary, middle, and high school. On our way there a Fish and Wildlife employee working to eradicate foxes on the Islands, also named Steve, took us on a scenic tour of Adak. He explained that it was a military base shut down as part of the base closure act in 1992. Since then the Aleut corporation owns most of the island. The rest is unsafe due to unexploded ordnances and large amounts of Agent Orange which were "unrecovered" after the war. Interestingly, there were a lot of proposals to reuse the developed area of the island as a prison, fatal disease colony, or aids colony (before the transmission of the disease was fully understood).

Steve Peek and I had never collected our target organisms before and although we had been briefed on what to look for, we were both anxious to get started on some trial collections. Having specimens from Adak would still be valuable, but we would have days to collect here where we would only have a few hours or less to do so while on the other Aleutian Islands.

The next day we were both up early to the smell of some very strong coffee. I had some fruit cups that I had bought at the store the night before. The first one tasted a little funny so I checked the expiration date. They expired before Kasatochi erupted. It was time to go collecting.

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Getting a Fish and Wildlife vehicle, a Ford excursion, to travel around Adak was surprisingly easy since many people had left on the Fish and Wildlife research vessel *Tiglax* (pronounced TEKH-lah), that morning. We spent the day driving to beach sites and hiking over steep hills to check rotting fish traps that Lisa had set out a week earlier. We were after *Lyrosoma opacum* specimens. *L. opacum* is a species of wingless carrion beetle which has been found on Kasatochi Island and some of the other nearby islands. It was one of the three target organisms which we were looking to collect on each of the Aleutian Islands. The problem is that you need to find carrion to attract carrion beetles and Adak Island has rats and foxes which would eat the carrion before the *L. opacum* beetles we were after could find it. In order to try and fix this problem Lisa, had set out rotting fish as bait and secured it with a covering of wire mesh held down with long stakes.

We spent the first half of our day finding each of the four traps and then collecting and recording any insects we found on them. Unfortunately, all we found were copious amounts of blowfly larva. We didn't see any adults, probably due to the over 40 mph winds which kept trying to blow us over. Given the winds, we had a brief dilemma of deciding whether to continue in search of our other two target organisms or call it a day. Since we didn't know what the weather was going to be like on each of the Islands, we decided to press on. If we could collect in these conditions, we could collect in anything.

Figure 2: Myself and Steve Peek aboard the *Tiglax* with an island in the background.

Eventually our work did pay off. I collected my first *Aegialites* sp. specimen off a large moss covered boulder with waves and wind spraying me from the nearby shore break. The habitat was exactly what had been described to me. *Aegialites*, another beetle, was the second of our target organisms. They are found in the cracks of mid splash zone lichen-covered boulders throughout the Aleutian and Japanese Archipelagos. They were also collected from Kasatochi Island prior to its eruption.

Our third target organism was *Scathophaga frigida*, a species of predatory shoreline fly which was common on Kasatochi both before and after its eruption. These were a bit trickier to catch in the wind; still, Steve managed to collect several from rotting kelp wracks. Over the next week we begin to notice that Aleutian shoreline flies have an interesting behavioral adaptation in that they dive down into the sand or rocks rather than try to fly away.

All specimens of our three target organisms were destined to be used in either stable isotope or genetic analysis. In order to ensure that this would be possible, everything was collected into 95% ethyl alcohol and kept as cold as possible for as long as possible. In order to do this, we placed our specimens into Whirl-Pak® bags and gave them complete labels as soon as possible after each collecting trip. Placing the specimens in Whirl-Pak bags allowed them to fit into a Tupperware container and be frozen easier. This was our protocol for processing specimens with one exception.

In the extreme wind neither Steve nor I had noticed just how badly the blowfly larvae smelled. Back in the bunkhouse this became blatantly obvious after they had been removed to whirl packs and frozen but could still be smelled through the freezer. They quickly became triple bagged and sealed at the bottom of a frozen Tupperware container for a poor person (probably me) to process later. After our long day of collecting, we joined some of the other scientists for dinner out at the charismatic Aleutian Sports Bar and Grill or A.S.B.A.G. for short.

The next day marked the second of our three days before we boarded the *Tiglax*, which would take us to the uninhabited islands surrounding Kasatochi. We weren't able to collect as long this day since the day before had marked the destruction of two Fish and Wildlife vehicles leaving only the Ford Excursion which we now shared with the "Bou crew", a fantastic group of Ecologists studying the effects of invasive Caribou on the island plants.

By mid afternoon the next day, we loaded onto the *Tiglax* for dinner. I was nervous about being on the vessel since my previous seafaring experience had me retching over the side of a halibut charter for several hours. However, my worries were unwarranted: everyone aboard the ship made my field work in the Aleutians a fantastic experience and the capitan and crew always made me feel safe. Still, I am very thankful to have never witnessed waves crashing over the bow of the ship like I had seen in so many pictures and videos of the *Tiglax*.

Life on board the *Tiglax* quickly settled into a routine. Wake up in the morning, see where the boat took us while we were asleep, drop one bird survey crew off in a skiff, then go a distance and the drop off the second bird survey

crew. Once the *Tiglax* was at the midpoint where the two survey crews would meet, Steve and I would go ashore in a skiff to an area that looked like good *Agelities* territory and collect as many target organisms as possible before the survey crews met up. These collecting trips usually lasted about an hour or so before we would get picked up for lunch. We would do this one to two times a day.

Figure 3: Collecting *Lyrosoma opacum* from the wing of a dead bird carcass.

By the end of our time on the *Tiglax*, we had collected specimens from a total of 80 sites on 10 islands: Adak, Umak, Tagadak, Great Sitkin, Igitkin, Tagalak Islets, Asuksak, Kag, Ulak, and Atka Islands, some which had never been collected on before. At almost every site we collected *Agelities* and what is believed to be *S. frigida*. Only two *L. opacum* specimens were found: one from Tagadak Island and one from Ulak Island, both on dead birds.

The weather oscillated between foggy and drizzly to beautiful and sunny with one day getting to over 80 degrees and never again getting as windy as our first collecting day. The exact number of specimens has yet to be determined, but I can say our collecting methods improved with our knowledge of where we found our target organisms. Steve used a dissecting scope aboard the *Tiglax* to verify that the Diptera he had been collecting on the cow parsnip and various other back beach vegetation were indeed *Scathophaga* sp. and I learned to identify the semi shiny elytra of an *Aegialites* sp. specimen hiding deep inside a crevice.

Becoming an Aleutian insect collector for two weeks was an experience I will never forget. The Aleutians are one of the most remote and beautiful locations I have ever been to and being out there with no cell phones, no cable TV, no newspaper, no internet, and only minimal connection from the outside world through the captain was an experience that was eerie and exhilarating at the same time. The specimens Steve Peek and I collected in the Aleutians will be used for an undergraduate project I am conducting thanks to funding by Alaska EPSCoR as well as a master's project by Casey Bickford and a faculty project by Dr. Derek Sikes.

Southeast Alaska Bioblitz 2011: A Delight for Citizens and Scientists Alike

by Casey Bickford[8]

On a wet Saturday afternoon in Juneau, a crowd of enthusiastic naturalists gathered at the University of Alaska Southeast campus. The raincoat-clad assembly included a range of people from seasoned biological specialists to eager schoolchildren. Despite the drizzle, there was a buzz of excitement in the air that escalated as the clock struck 2pm, marking the beginning of the 2011 Southeast Alaska Bioblitz.

Bioblitz events are held nationwide and represent opportunities for biologists to gather important baseline data on the biodiversity of a previously understudied area. These events are also a chance for both scientists and volunteers to work side by side. At the time I was a lab technician working in the University of Alaska Museum Insect Collection and was delighted to have the chance to participate in my first bioblitz.

The event kicked off with everyone assembling into teams according to their taxa of interest. Our group had the daunting task of counting the many species of terrestrial invertebrates. Our team included USDA Entomologist, Mark Schultz, Kenai NWR Entomologist, Matt Bowser, myself, and Derek Sikes, Entomology Curator at the University of Alaska Museum. As everything inside the Auke Creek watershed was fair game, we started our search by strolling down to the Auke Lake shoreline. The children joining us were handed nets and enthusiastically swatted at the many insects hiding in the grasses.

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The other habitats we surveyed included a second-growth forest stand on the UAS campus and the rocky beach of Auke Bay. While surveying the intertidal fauna, I was especially excited to find *Aegialites*, the genus of beetles I am studying for my Master's thesis. Despite being relatively common, the tiny beetles are notoriously difficult to find as they like to hide in rock crevices along the upper splash zone. Lucky for me, these little guys were sunning themselves on the rock surface when I came along.

Figure 1: The author collecting on UAS campus, June 18. Photo by Matt Bowser.

The last place we visited was a muskeg bog accessible by a trail through the woods. We could hear bumblebees humming around us but for a while they eluded our attempts to capture them. Finally one little boy succeeded by netting a bee while it was busy pollinating a flower. With the net over it and pressed flat to the ground, the bee buzzed furiously and the boy whooped in triumph. Getting the angry bee from the net to the vial proved a bit more tricky but with a little help from the team, he walked away unscathed and with trophy in hand.

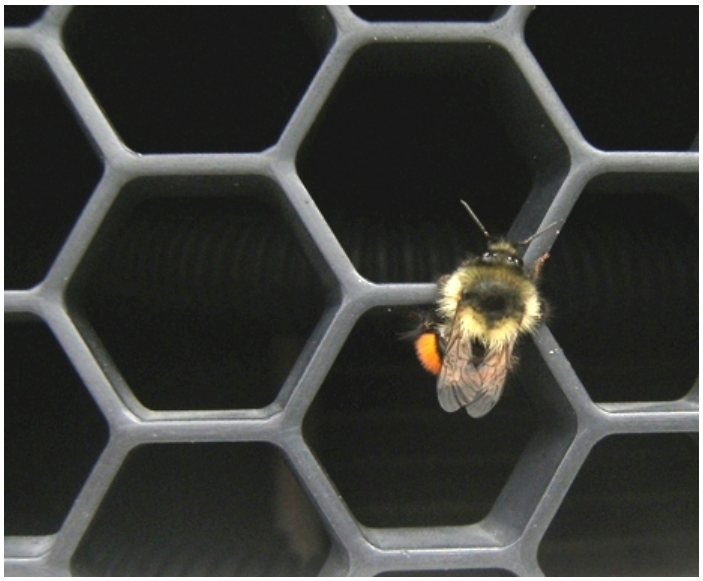

Figure 2: A bumble bee (*Bombus* sp.) on the grill of a vehicle parked at the US Forest Service office in Juneau. Photo by Casey Bickford.

As the bioblitz drew to a close, everyone gathered on campus to spread out their samples in a frantic attempt to identify their specimens before the 2pm deadline. We divided up the lot by higher taxa and then set to work counting as many different morpho-species as we could find. By the end we had a total of 173 terrestrial arthropod species. When added to the mammals, birds, plants, lichens, and aquatic invertebrates, the total number of species recorded during the bioblitz reached a conservative estimate of 861.

It's now been some time since we did our quick and dirty species count and those samples are still being processed at the University of Alaska Museum. We won't know exactly how many species we collected during those 24 hours until all specimens are mounted and examined by experts. Even then, some genera may just be too understudied to identify their species. It is still amazing to me how easy it is to pick up a creature that we know next to nothing about. Thankfully there are events like this one that allow community members to catch a glimpse of the incredible biodiversity of their own backyard.

Figure 3: Portland Island, June 19. Photo by Matt Bowser.

An Account of the 2011 Chugach BioBlitz

by Matthew L. Bowser[9]

Figure 1: My son, Ethan, helped set up a malaise trap by our campsite in the Williwaw Campground.

Narrative

For me, the 2011 Chugach BioBlitz (a.k.a. the Portage Valley Bioblitz or the 2011 Southcentral BioBlitz) was a family affair. My wife and I loaded up three kids, two dogs, and sundry supplies into our F-150 on the morning of July 23 and rolled straight through from Kasilof to the Begich, Boggs Visitor Center on Portage Lake. It was already a blustery day in Portage Valley at 11:30, with a resolute wind bending the trees away from Portage Glacier.

A good number of children and their parents joined my family for a survey of terrestrial arthropods at 12:30. After a quick briefing on mininum label standards, we handed out labels, pencils, vials, and insect nets. We began by sampling the trees and shrubs around the visitor center, but we soon retreated to the shelter of the forest at the beginning of the Moraine Trail.

The kids needed no encouragment, easily overwhelming us with vials of insects to be dealt with. Thankfully, some of the parents helped to fill out specimen labels.

Motivated to get our tents pitched before the impending rain came, we moved into the appropriately named Williwaw Campground, established our camp, and then set up malaise and pan traps just before it began raining sideways.

The remainder of the 24-hour Blitz is characterized in my memory by a ceaseless effort to keep myself and my family warm and dry to the extent possible. We took our supper huddled in the entry of the visitor center. That night, we listened through a background of rain on nylon canvas as violently disembodied boughs of cottonwoods crashed obliquely through the forest canopy.

Through all this, my kids remained suprisingly cheerful. They consumed their lukewarm oatmeal with alacrity despite doing so dressed in full slickers in driving rain. None of us wanted to linger, though. We packed up our camp quickly in the spirit of a rapid, happy retreat.

Back at the visitor center, I joined the other volunteers in a makeshift lab room where we pored over our samples for a quick tally of species. I was able to report 55 terrestrial invertebrate taxa (Table 1) before it was time to get my tired crew on the road.

Table 1: Breakdown of terrestrial invertebrates reported by the end of the 24-hour BioBlitz. I must have added one more taxon after jotting down this breakdown to make the total of 55 reported.

Taxon	Tally
Mollusca	
Gastropoda	2
Annelida	
Clitellata	
Oligochaeta	2
Arthropoda	
Arachnida	
Acari	6
Araneae	2
Insecta	
Collembola	4
Hemiptera	3
Coleoptera	2
Diptera	22
Lepidoptera	4
Hymenoptera	7
Total	**54**

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Table 2: Breakdown of terrestrial invertebrates specimens from the Chugach BioBlitz in Arctos as of March 5, 2012.

Taxon	# Specimens	KNWR Catalog Numbers
Annelida		
Clitellata		
Haplotaxida		
Lumbricidae		
Dendrobaena octaedra	1	8009
Arthropoda	1	8004
Arachnida		
Acari	1	7957
Sarcoptiformes		
Oribatida	1	8015
Trombidiformes		
Bdellidae	1	8014
Opiliones		
Sabaconidae		
Sabacon	1	8013
Insecta		
Collembola		
Hypogastruridae	1	8011
Sminthuridae		
Ptenothrix	1	8012
Hemiptera		
Cicadellidae	1	8000
Idiocerus	1	8017
Thysanoptera	1	8010
Coleoptera		
Carabidae	3	8005, 8006, 8007
Staphylinidae	1	8008
Diptera	1	7999
Culicidae	1	7956
Empididae	1	8002
Scatopsidae	1	8001
Total	**19**	

Figure 2: Ethan and Apphia Bowser enjoying a breakfast of oatmeal in the rain.

Lessons Learned

The Southeast BioBlitz on June 18-19 had been my first BioBlitz experience. Then, I was not well prepared to deal with child participation and I did not plan well for the extremely restrictive time limitations of a 24-hour Blitz.

For the Chugach BioBlitz, I was better prepared to include kids in the survey effort. We based our survey out of the visitor center, where families were already gathered and could easily join us. I had printed simple locality labels and stressed their importance as I handed these and inexpensive vials to children and their parents. My wife, Kim, helped greatly by extracting label data from children and jotting them onto the little labels. This resulted in a bag full of specimen vials that met mininum label standards.

At the Southeast BioBlitz in June, I had continued sampling on the morning of the seond day. I ran out of time in the end and had to report a tally of species before I had even looked at all of the samples. For the Chugach Bioblitz, I pulled all of my traps on the morning of the second day and devoted what remained of my time to examining the samples. This was a much better strategy for reporting the maximum number of species within the 24-hour Blitz; however, continuing to sample would have yielded more species as specimens would eventually be processed.

Follow-Up

The terrestrial invertebrate specimens from the 2011 Chugach BioBlitz are deposited in the entomology collection of the Kenai National Wildlife Refuge (Table 2), where processing them is of low priority. At present, most of the specimens remain in bulked vials and have not been databased. The 2011 Chugach BioBlitz now exists in Arctos as a project at `http://arctos.database.museum/project/chugach-bioblitz`, where data are being posted as the specimens are processed. Additional information and pictures of insect sampling from the BioBlitz are posted at the Chugach BioBlitz website at `http://chugachbioblitz2011.wordpress.com/`.

Update on the 2011 Kenai Arthropod Rapid Ecological Assessment

by Matthew L. Bowser[9]

Figure 1: David Wartinbee, Bob Usab, Derek Sikes, Dan Bogan, Jeff Skaza, and Matt Bowser at Skilak Lake. Photo by Todd Eskelin.

In the last days of June, Dr. Derek Sikes, Dr. David Wartinbee, Dan Bogan, and Jeff Skaza joined me for four days of collecting on the Kenai National Wildlife Refuge. Our goals were to (1) augment the inventory of species known from the Refuge and (2) build a corresponding library of DNA barcodes. This reference library of DNA barcodes is necessary for planned monitoring of arthropods using next-generation DNA barcoding methods.

We worked at three sites: Emerald Lake, perched in a hanging valley above Grewingk Glacier; Skilak River flats and Lucas Island on Skilak Lake; and the vicinity of the Kenai National Wildlife Refuge visitor center at Headquarters Lake. We were blessed with glorious weather for this project so that our efforts yielded plenty of specimens.

As of March 7, the bulk samples were separated into 519 specimens, including fourteen species-level identifications,

listed in Table 1. Forty-six specimens have been sent out in ten loans to seven specialists. As these are identified and returned, representative samples will be sent out for DNA barcoding, with data posted on Arctos, BOLD, and GenBank. At present, a DNA barcode has been obtained for only one specimen: KNWR:Ento:7100, *Dendrodrilus rubidus* (Savigny, 1826) (Haplotaxida: Lumbricidae).

Figure 2: Jeff Skaza and David Wartinbee collecting near Emerald Lake. Photo by Matt Bowser.

Figure 3: Malaise trap near Emerald Lake. Photo by Derek Sikes.

Figure 4: KNWR:Ento:7710, *Hyppa* sp. (Lepidoptera: Noctuidae).

Figure 5: KNWR:Ento:7331, *Strigamia chionophila* (Geophilomorpha: Linotaeniidae), head, ventral view.

So far, the most notworthy finds are not arthropods. The exotic earthworm, *D. rubidus*, was a new record for the refuge and a bit of a surprise to find at Emerald Lake, a pristine alpine lake accessible only by floatplane or a hike from Kachemak Bay. Northern hollyfern, *Polystichum lonchitis* (L.) Roth (KNWR:Herb:7170), also found at Emerald Lake, was another new species record for the refuge.

Up-to-date information on this project is available on the project's web page via Arctos at `http://arctos.database.museum/project/-kenai-national-wildlife-refuge-arthropod-rapid-ecological-assessment`. A Refuge Notebook article about this project, written for the *Peninsula Clarion*, is posted at `http://kenai.fws.gov/overview/notebook/2011/aug/5aug2011.htm`.

It was a priviledge and a pleasure working with the aforementioned volunteers and to them I express sincere thanks. I am also grateful to Todd Eskelin for transporting us to localities along Skilak Lake and to Dominique Collet, who volunteered his time in the fall sorting or identifying ninety-seven of these specimens. Expert determinations were made by Lucio Bonato (Geophilomorpha), Joey Slowik (Araneae), and Clifford Ferris (Lepidoptera). Daniel Shain obtained molecular data from the Lumbricidae specimen used for its identification.

Table 1: Terrestrial invertebrates specimens in Arctos as of March 7, 2012.

Taxon	# Specimens	KNWR Catalog Numbers
Animalia	1	7334
Mollusca		
Gastropoda	1	7695
Annelida		
Clitellata		
Haplotaxida		
Lumbricidae		
Dendrodrilus rubidus?	1	7100
Arthropoda	1	7140
Arachnida		
Acari	2	7682, 7694
Trombidiformes		
Bdellidae	1	7616
Bdella?	1	7607
Araneae	6	7294, 7332, 7624, 7665, 7953, 8067
Cybaeidae		
Cybaeus	1	7951
Linyphiidae	3	7478, 7683, 7692
Erigoninae	1	7950
Lycosidae	3	7191, 7306, 7691
Tetragnathidae		
Tetragnatha	1	7606
Theridiidae		
Steatoda borealis	1	7955
Opiliones		
Sclerosomatidae		
Nelima paessleri	1	7192
Malacostraca		
Amphipoda	2	7139, 7141
Chilopoda		
Geophilomorpha		
Linotaeniidae		
Strigamia chionophila	2	7331, 7690
Lithobiomorpha	1	7703

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Taxon	# Specimens	KNWR Catalog Numbers
Insecta	212	7122, 7123, 7124, 7133, 7134, 7135, 7136, 7137, 7145, 7146, 7147, 7148, 7149, 7151, 7159, 7164, 7167, 7180, 7181, 7187, 7189, 7190, 7195, 7196, 7225, 7226, 7227, 7228, 7229, 7230, 7232, 7233, 7234, 7236, 7237, 7238, 7240, 7241, 7243, 7245, 7252, 7253, 7254, 7255, 7256, 7260, 7265, 7270, 7271, 7272, 7274, 7275, 7277, 7278, 7280, 7281, 7284, 7285, 7287, 7290, 7463, 7470, 7472, 7473, 7567, 7570, 7571, 7572, 7574, 7575, 7576, 7577, 7579, 7589, 7591, 7596, 7597, 7599, 7613, 7626, 7627, 7628, 7629, 7630, 7631, 7632, 7633, 7634, 7635, 7636, 7637, 7638, 7639, 7640, 7641, 7642, 7643, 7644, 7645, 7646, 7647, 7648, 7649, 7650, 7651, 7652, 7654, 7655, 7656, 7657, 7658, 7659, 7660, 7661, 7662, 7663, 7708, 7711, 7712, 7713, 7714, 7715, 7716, 7717, 7718, 7720, 7721, 7723, 7724, 7725, 7726, 7727, 7728, 7729, 7730, 7731, 7732, 7733, 7734, 7735, 7736, 7737, 7738, 7739, 7741, 7742, 7743, 7744, 7745, 7746, 7747, 7748, 7750, 7752, 7753, 7755, 7756, 7757, 7758, 7759, 7760, 7761, 7762, 7763, 7764, 7765, 7766, 7767, 7769, 7770, 7771, 7772, 7773, 7774, 7775, 7776, 7778, 7779, 7780, 7781, 7782, 7783, 7784, 7785, 7787, 7788, 7789, 7790, 7791, 7794, 7795, 7796, 7824, 7825, 7826, 7827, 7828, 7829, 7830, 7831, 7832, 7833, 7834, 7835, 7836, 7837, 7838, 7839, 7840, 7841, 7842, 7843
Collembola	1	7667
Entomobryidae	1	7625
Tomoceridae	2	7333, 7693
Sminthuridae	1	7609
Microcoryphia		
Machilidae		
Petridiobius arcticus	1	7292
Ephemeroptera	1	7811
Siphlonuridae		
Parameletus?	1	7198
Heptageniidae	1	7810
Ephemerellidae		
Ephemerella?	1	7809
Odonata		
Coenagrionidae	1	7188
Enallagma	1	7465
Enallagma annexum	1	7466
Plecoptera	4	7664, 7812, 7820, 7954
Psocoptera	1	7818
Hemiptera	5	7307, 7666, 7684, 7685, 7687
Auchenorrhyncha		
Cicadellidae	11	7468, 7476, 7477, 7479, 7495, 7496, 7584, 7585, 7586, 7605, 7819
Delphacidae	3	7365, 7564, 7594
Sternorrhyncha		
Aphididae	2	7608, 7822
Psyllidae	5	7360, 7370, 7475, 7615, 7823
Heteroptera	1	8066
Lygaeidae	1	7817
Geocoris	1	7686
Miridae	2	7383, 7492
Thysanoptera	3	7112, 7359, 7821
Neuroptera		
Hemerobiidae	1	7688
Coleoptera	3	7120, 7121, 7696

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Taxon	# Specimens	KNWR Catalog Numbers
Carabidae	17	7104, 7106, 7132, 7293, 7668, 7669, 7670, 7671, 7672, 7674, 7675, 7676, 7677, 7678, 7679, 7680, 7697
Dytiscidae		
Oreodytes laevis?	1	7681
Staphylinidae	4	7105, 7673, 7699, 7700
Elateridae	2	7194, 7698
Cantharidae	3	7377, 7751, 7786
Curculionidae		
Trichalophus alternatus	1	7952
Siphonaptera		
Ceratophyllidae		
Ceratophyllus niger?	1	7309
Diptera	34	7113, 7114, 7115, 7118, 7119, 7363, 7366, 7367, 7368, 7371, 7375, 7376, 7378, 7380, 7381, 7384, 7385, 7386, 7388, 7389, 7390, 7392, 7393, 7394, 7397, 7398, 7399, 7400, 7401, 7402, 7403, 7404, 7406, 7813
Tipulidae	1	7165
Limonia	1	7593
Tipula	1	7740
Bibionidae	2	7364, 7372
Mycetophilidae	1	7286
Sciaridae	2	7279, 7483
Psychodidae	1	7258
Culicidae	5	7144, 7391, 7464, 7489, 7578
Ceratopogonidae	2	7259, 7485
Chironomidae	11	7156, 7157, 7160, 7161, 7166, 7182, 7183, 7184, 7467, 7469, 7484
Empididae	6	7103, 7150, 7382, 7396, 7598, 7612
Dolichopodidae	15	7242, 7471, 7480, 7481, 7493, 7494, 7498, 7499, 7502, 7559, 7562, 7568, 7569, 7603, 7604
Phoridae	7	7249, 7250, 7264, 7269, 7283, 7581, 7582
Syrphidae	23	7108, 7235, 7239, 7244, 7291, 7362, 7369, 7373, 7379, 7395, 7405, 7588, 7592, 7595, 7602, 7705, 7707, 7719, 7722, 7749, 7754, 7768, 7792
Chrysotoxum	1	7216
Lonchaeidae	1	7273
Agromyzidae	2	7488, 7558
Anthomyzidae	5	7490, 7560, 7561, 7563, 7566
Sciomyzidae	4	7487, 7590, 7601, 7610
Ephydridae		
Hydrellia	5	7482, 7486, 7491, 7501, 7565
Scathophagidae		
Cordilura?	1	7266
Anthomyiidae	1	7497
Muscidae		
Graphomya?	1	7231
Morellia podagrica?	3	7221, 7223, 7224
Muscina levida?	1	7220
Phaonia?	1	7217
Calliphoridae	1	7704
Cynomya cadaverina?	2	7218, 7219
Tachinidae		
Panzeria?	1	7222
Trichoptera	3	7168, 7308, 7808
Lepidoptera	1	7101

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Taxon	# Specimens	KNWR Catalog Numbers
Pieridae		
Pieris	2	7116, 7117
Geometridae		
Operophtera bruceata?	1	7158
Noctuidae		
Hyppa	1	7710
Hymenoptera		
Tenthredinidae	3	7282, 7777, 7793
Rhogogaster	1	7600
Tenthredo	4	7358, 7361, 7374, 7653
Megaspilidae		
Dendrocerus	1	7844
Braconidae	9	7251, 7257, 7261, 7262, 7263, 7267, 7387, 7580, 7583
Cheloninae	1	7573
Ichneumonidae	5	7246, 7247, 7248, 7500, 7611
Ophion bilineatus?	4	7171, 7173, 7174, 7214
Figitidae	2	7474, 7587
Diapriidae	3	7268, 7276, 7614
Platygastridae	1	7845
Apidae		
Bombus	1	7706
Vespidae		
Vespula austriaca?	1	7215
Formicidae	1	7142
Formica	5	7138, 7143, 7197, 7199, 8065
Total	**519**	

Review of the Fifth Annual Meeting

by Matthew L. Bowser[9]

Figure 1: Members present at the end of the meeting. Back row, from left: Corlene Rose, Dan Bogan, Roger Burnside, Ken Zogas, Matt Bowser, and Derek Sikes. Front row, from left: Jim Kruse, Steve Swenson, Casey Bickford, and Sayde Ridling.

The fifth annual meeting of the Alaska Entomological Society took place at the Cooperative Extension Service office in Anchorage on January 28, 2012. We are grateful to **Corlene Rose** and **Michael Rasy** for making this space available to us.

Presentations

The first two talks dealt with aspects of collection management technology. **Derek Sikes** related his experience to date as he works toward moving UAM Insect Collection's 100,000+ records over to Arctos, including why he is motivated to do so. I gave a rather nerdy presentation about using free fonts and software for typesetting of insect specimen labels.

Sayde Ridling presented on her work attempting to determine the origins of post-eruption insect populations using molecular methods, specifically focusing on *Scathophaga frigida*. **Jonny Newman** shared about his thesis work on the ecology of aspens, where he investigated how the trees, leaf miners, and ant predators interact. **Casey Bickford** introduced her studies on speciation and genetics of the Salpingid beetle *Aegialites*.

Jim Kruse and **Roger Burnside** gave us an update on a varity of insect pests around the state. I thought that their interceptions of non-native beetles in imported firewood was particularly noteworthy as a topic not previously dealt with in Alaska.

We concluded with a general discussion about the possibility of moving data management of other Alaskan entomology collections, especially the Forest Service's three regional collections, to Arctos so that most Alaskan entomological holdings would be available for searching through a single, powerful, public interface.

The student award committee awarded the **Student Presentation Award** to **Jonny Newman** for his presentation, "Causes and consequences of variation in extrafloral nectar secretion by quaking aspen (*Populus tremuloides* Michx)".

Business Items

- We opted to initiate a presence on FaceBook, already implemented thanks to **Derek**.
- We will now be offering awards for entomology-related projects at the three regional science fairs (Anchorage, Fairbanks, and Juneau).
- The previous slate of officers was re-elected except that **Casey Bickford** replaced **Derek Sikes** as vice president.

Upcoming Events

Southeast Alaska Bioblitz 2012, August 18-19

The third Southeast Alaska Bioblitz will occur in Sitka. Details will be posted via the Alaska Coastal Rainforest Center's website at `http://uas.alaska.edu/acrc/acrc_cs/bioblitz/index.html`.

Denali Bug Camp, June 27-30

Denali Education Center will again be offering Denali Bug Camp, a 4 day program for students ages 11 and 12. Details are posted at `http://www.denali.org/denali-bug-camp`.

Sixth Annual Meeting, January 25-26, 2013

The sixth annual meeting of the Alaska Entomological Society will take place in Fairbanks on January 25-26, 2013. Details are yet to be decided. As the meeting date approaches, check for updates at our events page (`http://www.akentsoc.org/events.php`).