



# Newsletter

of the

## Alaska Entomological Society

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### In this issue:

Review of the Second Annual Meeting . . . . .	1
Outbreaks of the grass fly <i>Thaumatomyia annulata</i> (Walker) (Diptera: Chloropidae) in Alaska . . . . .	2

Broadview — Still Making History . . . . .	4
Notes on a Kenai <i>Sabacon</i> (Opiliones: Sabaconidae) . . . . .	5
Alaska Entomological Bibliography 2007 . . . . .	7
Field Season 2008: An Overview . . . . .	8
Announcements and Upcoming Events . . . . .	10

## Review of the Second Annual Meeting

by Matthew Bowser<sup>1</sup>

Despite a late announcement and last-minute arrangements, we held an interesting and productive meeting on January 25–26 at the U.S. Forest Service's State & Private Forestry offices in Anchorage. Nine members and eleven guests attended some portion of the meeting.

### Presentations

Derek Sikes gave a slide show on his entomological highlights of 2006–2007, described his work toward a checklist of the terrestrial arthropods of Alaska, and championed standards for arthropod collection data and collection management. Alberto Pantoja shared about his experiences working for the International Center for Tropical Agriculture in over much of Latin America and presented data on insect pests as vectors of disease in potatoes in Alaska. Alison Triebenbach and Karsten Hueffer described their upcoming research on transmission of zoonoses, especially tularemia, by mosquitoes in Alaska. I argued for explicit consideration of all taxa, even arthropods, in conservation strategy. Dominique reported on his progress researching biology and taxonomy of gall-making insects. Kenelm Philip presented macrophotographs of butterflies from around the state, including *Papilio zelicaon* (figure 1), a new state record.

Two of the ten scheduled talks were canceled. John Hudson was not able to present his overview of the Odonata of Alaska because adverse weather conditions caused cancellation of his flights. Roger Burnside's update on forest entomology in Alaska was canceled because a few

other talks ran long.



Figure 1: First Alaska specimen of *Papilio zelicaon*: a male collected in Hyder, June 2, 2007, by Ian Bruce for the Alaska Lepidoptera Survey

### Business Items

We reached decisions on most of our agenda items, of which some of the most important are listed below.

- The constitution and by-laws of the AKES were ratified.

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- We decided to produce at least one newsletter per year due one month after the annual meeting.
- Dates were set for the next annual meeting and a field foray (See upcoming events, page 10).
- We opted to modify the membership categories and rate schedule. A special resolution and a vote by the AKES membership is required before the proposed changes will take effect.
- We decided that interest from the Chris Thompson Endowment would go toward a student talk award

at the 2009 annual meeting and subsequent annual meetings.

- The 2007 officers retained their posts. In addition, John Lundquist was added as a director.

We were not able to address all agenda items. Some members have expressed interest in seeing that a program of annual bioblitzes in Alaska is begun, with the location moving each year. We would also like to find ways to reach out to potential members who live or work in remote and poorly-sampled areas of the state. These topics will be pursued via discussion on the AkEntoNet-L e-mail list.

## Outbreaks of the grass fly *Thaumatomyia annulata* (Walker) (Diptera: Chloropidae) in Alaska

by Derek S. Sikes<sup>2</sup>

*"Nomina si pereunt, perit et cognitio rerum."*

If the names are lost, the knowledge also disappears.

— J.C. Fabricius, 1778, *Philosophia Entomologica* VII,1

In interior Alaska we have had numerous reports of small flies aggregating on walls, getting inside buildings and thereafter aggregating indoors on south-facing windows. The quantity of these flies was great enough to be a considerable nuisance to people. These reports were most numerous in late summer and early fall. I first saw these flies the summer I arrived in Alaska in 2006 on the Steese Highway about two hours' drive northeast of Fairbanks, but they were even more abundant in the summer and fall of 2007.

This phenomenon emphasizes the importance of the Fabricius quote above. Until we had obtained an identification for this species it was a complete mystery to all involved. The public wanted information on what these flies were doing and whether they were a danger to property. It was not known if the flies were plant feeders, decomposers (as was assumed incorrectly in at least one case), fungivores, or predators. Extension agents and pest control companies did not have the information they needed to answer the public's most basic questions.

A scientific name is the necessary key to unlock the information scattered in the literature. Without the name, the knowledge is lost, as Fabricius so aptly put it. Once I had identified the flies the following facts were then available:

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Figure 1: *Thaumatomyia annulata* (Walker). Photographed in Fairbanks, September 23, 2006.

1. The species is *Thaumatomyia annulata* (Walker) (figure 1) which I keyed out using Sabrosky (1943). In addition to this species we have at least three other *Thaumatomyia* in Alaska based on literature and specimens in the University of Alaska Museum (UAM): *Thaumatomyia glabra* (Meigen),

known from specimens in the UAM and the publication Cole (1969); *Thaumatomyia trifasciata* (Zetterstedt), known from Cole (1969); and *Thaumatomyia pullipes* (Coquillett), known from Sabrosky (1965). *T. annulata* has been reported from Alaska previously by Sabrosky (1965). Specimens of *T. annulata* have been deposited in the UAM.

2. Thirteen species in this genus were listed as known from North America in the Nomina Insecta Nearctica (Poole and Gentili, 1997). Of the eleven species known to Nartshuk (2000), a mass outbreak had only been reported for one species in Michigan. This case was reported in Sabrosky (1940) who wrote:

The occurrence in extraordinary numbers in houses of tiny Dipterous insects of the family Chloropidae has been recorded many times by European authors, especially in Germany and England. The vast swarms (*Massenaufreten* or *Massenvorkommen*) are recorded as covering the ceilings and windows, and at times making it impossible to use certain rooms. Hase (1929), recording the collection of 35 to 40 liters of flies in one of the outbreaks, calculated that there were 12 to 14 million individuals concerned, there being about 360 flies per cubic centimeter. Estimates in other instances have been as high as 30 million individuals.

and

Such mass occurrences of these very small flies have not hitherto been recorded in the Americas. It is of interest therefore to record such an occurrence at a resort hotel in Charlevoix, Michigan, in June 1940.

Sabrosky identified the fly in this case as *T. annulata*. Some buildings in the Fairbanks area accumulated gallons of these small flies. They were regularly reported from University of Alaska Fairbanks campus buildings including the library and the museum. Inquiries to North American and international entomologists via the electronic mailing list ENTOMO-L (<http://www.ent.iastate.edu/maillinglist/entomo-1/>) did not turn up any additional records of outbreaks. However, on additional source of North American outbreaks was found (Ebeling, 2002), apparently based on unpublished communications with the late C. W. Sabrosky:

C. W. Sabrosky (correspondence) has since received reports of this species in houses, sometimes in large numbers, in areas ranging from Idaho to New Hampshire. One correspondent from Montreal, Wisconsin, stated that the flies were nuisances in the homes throughout his immediate neighborhood.

3. Although often referred to by the public as "gnats" these flies are not gnats; they are sometimes called "grass flies" (family Chloropidae). Gnat is a term best restricted to flies of the old suborder Nematocera, which includes the midges, mosquitoes, crane flies and other flies that tend to have long antennae. Grass flies do not belong to this suborder.

4. The larva of the most well-known species, *Thaumatomyia notata* Meigen, is a predator of aphids that feed among the roots of grasses (Nartshuk, 2000). I do not know if the feeding habits of *T. annulata* have been described, but it is likely that this species is also a predator on root aphids and is associated with grasses.

5. These flies overwinter as adults and seek small cracks in bark etc. to find protection for the winter. In warm buildings they dehydrate and die so their presence indoors is unintentional. They mysteriously seem to get inside buildings that were thought to be well-sealed. Vacuuming them is the recommended removal method.

6. A Russian entomologist, Emilia P. Narchuk (a.k.a. E. P. Nartshuk), wrote an excellent article on the outbreak phenomenon, known from one Old World species (of 42), *Thaumatomyia notata*. An English translation of her article is available at <http://www.zin.ru/annrep/2000/16.html>. This article appears to be based on Nartshuk (2000).

7. Reports were concentrated heavily in the Fairbanks area, but also included Delta Junction. There were reports from 2005 in the Anchorage area, including Wasilla, as well. In seeking information via e-mail, a report from out of state, Everett WA, north of Seattle, was also obtained.

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## Broadview — Still Making History

by Ken Zogas<sup>3</sup>

This relatively non-descript collection of white buildings on the shore of Kenai Lake, some older than 70 years, visible only from the air or from Snug Harbor Road (figure 1), houses what has become one of the most productive centers for forest entomology and pathology in the State. Known as Broadview Guard Station, the original intent of this facility was to serve as a fire guard station when in 1935, using Civilian Conservation Corps funds, the Chugach National Forest constructed a 22' × 39' cabin on this 2 1/2 acre administrative site near Cooper Landing. For the next half century, Broadview was used not only for fire watch, but for whatever other uses the National Forest deemed appropriate, including, for a time, as a State Trooper communication site. A small bunk house was constructed in 1968 and a fuel shed and firewood shelter were added sometime after that.

The site was abandoned in the early 1980's for unknown reasons. Shortly thereafter, Broadview was condemned because its only water source was from a cement catch basin uphill from the facility where surface runoff from Langille Mountain was collected and gravity-fed into the Station.

Beginning in the late 1970's, the largest spruce beetle (*Dendroctonus rufipennis*) epidemic (at that time) in North America, was beginning to take hold in the northern Kenai Peninsula. Entomologists from the U.S. Forest Service, Forest Health Protection (FHP) group re-directed attention to spruce beetles and away from urban and forest defoliators like the spruce budworm (*Choristoneura* sp.) outbreaks in the Interior and the Copper River Valley, and significant leaf roller (*Epinotia solandriana*) populations in southcentral Alaska.

As the *per diem* cost of housing crews for the summer on the Kenai became prohibitive, alternative housing solutions were explored. While establishing spruce beetle impact transects around Cooper Landing in early 1985, our FHP crew literally stumbled upon Broadview. This seemed like the ideal solution to our housing problems. Negotiation with the National Forest resulted in the first of three 10-year facility leases signed among Forest Health Protection, the Institute of Northern Forestry in Fairbanks, the Pa-

cific Northwest Research Station in Portland, and the Seward Ranger District. New research at this facility began in earnest in 1985. Work at that time centered on spruce beetle impact evaluations, insecticides used as preventatives, silvicultural treatments to reduce spruce beetle impact, blue-stain fungi (*Leptographium* sp.) associated with spruce beetles, other bark beetles such as *Ips* sp., and the use of semiochemicals such as attractant and repellent pheromones.

As the size of the epidemic increased over time, so did the interest of scientists from around the country and, in fact, around the world. To meet this demand, the physical structure of Broadview grew as well. Another bunkhouse was added, a well was installed, a dry lab and insectary were built to support research, a shop was added to facilitate the fabrication of field equipment, a shelter was built for field trap storage, and internet access was provided.

To date, Broadview has hosted scientists from five countries on three continents, six universities, The Forest Products Laboratory, Brookhaven National Laboratory, The National Institute of Health, four regional Forest Service forest research labs, the U.S. Fish and Wildlife Service, and the State of Alaska. It has also been the summer home to four successful Ph.D. candidates working on entomologically related topics. More than 120 journal publications, technical reports, and research papers have been produced as a direct result of work carried out at Broadview. Broadview has become one of the most productive facilities of its kind in the Forest Service.

Critical to its success has been the facility itself. Less travel time equates to more time for work, lower cost of travel and living expenses such as fuel, or *per diem*. This means that more funds are available for research and projects. The informal atmosphere contributes to work and ideas among individuals from a wide variety of disciplines being shared long after the work day is over.

Broadview is in operation annually from late April until early October. Currently, there are more than 17 studies underway involving the subjects of genetics, biochemistry, entomology, pathology, microbiology, climate, botany and invasive organisms. Examples include gathering baseline information on the northern Kenai "new forests" (post-beetle

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Figure 1: View of Broadview Guard Station from Snug Harbor Road.

epidemic), assessment of population dynamics of the invasive amber-marked birch leaf miner (*Profenusa thompsoni*) as it becomes established in wildland forests of the Kenai, and rearing of natural parasites of *P. thompsoni* for identification. The use of methyl jasmonate, a naturally occurring plant hormone, is being used to boost tree defense against

spruce beetle and *Ips* beetle attacks.

FHP remains interested in entertaining new ideas for work, exploring new opportunities for collaboration, and in maintaining a first-rate facility for the advancement of understanding the forces acting upon our forest resources.

## Notes on a Kenai *Sabacon* (Opiliones: Sabaconidae)

by Matthew Bowser<sup>1</sup>

### Introduction

Members of the genus *Sabacon* are small, delicate harvestmen having large pedipalps densely covered with stout setae (figures 1 and 2). The genus is broadly distributed in the Northern Hemisphere (Shear, 1975). Specimens of *Sabacon* were collected from Sitka, Berg Bay, Yakutat and Popof Island on the 1899 Harriman Alaska Expedition (Banks, 1900). These specimens, all immature, were identified by

Banks (1900) as *Sabacon occidentalis* Banks, but since it is nearly impossible to distinguish immature specimens of sympatric species (Shear, 1975), Banks' determination is questionable. I have found no other record of *Sabacon* from Alaska.

The natural history of the genus is poorly known. These harvestmen are generally found in cool, moist environments such as caves, shaded ravines and dense forests, where they may be collected under logs or stones (Shear, 1975). Complete phenological data are lacking, but generally immature specimens have been collected in the sum-

mer and adults do not appear until the fall (Shear, 1975). Prey are captured with the pedipalps, the hairs of which are coated with a sticky secretion, then quickly transferred to the chelicerae (Acosta and Machado, 2007).



Figure 1: Female *Sabacon* sp., length about 4mm, from outside the headquarters building of the Kenai National Wildlife Refuge.



Figure 2: Male *Sabacon* sp., length about 3mm, from outside the headquarters building of the Kenai National Wildlife Refuge.

## Observations

Over the cold, grey, wet days from November 1 to November 5, I collected five specimens from the vicinity of the headquarters building of the Kenai National Wildlife Refuge in Soldotna (60.46461°N, 151.07339°W  $\pm$  50m and 60.4655°N, 151.061°W  $\pm$  150m). One immature male I found

under bark of a damp aspen log, an adult male was under a birch log (figure 3), and two adult females and one adult male had been on the back wall of the headquarters building. One female escaped as I photographed it. The immature male died shortly after being brought to the lab. I mailed one adult female and one adult male to Dr. Robert Holmberg (recently retired from Athabasca University), who is working on this group.

A single adult male I kept alive in a petri dish in a refrigerator at 5°C, where I supplied it with a moist paper towel and live Collembola and Psocoptera. It did not eat the Psocoptera (*Liposcelis decolor* (Pearman) and *Badonnelia titei* Pearman), but it devoured numerous Collembola which I provided, mostly Isotomids and Entomobryids, including large individuals of the genus *Tomocerus*.

As was noted by (Shear, 1975), all of the *Sabacon* specimens I collected generally moved slowly, but it should be taken into account that the temperature was never much above 0°C when field observations were made. The male I maintained in the refrigerator could dart nimbly when disturbed, even immediately after being removed from the refrigerator. It frequently reacted to disturbance by feigning death, quickly drawing its legs close to its body and collapsing onto its side. It would remain on its side for some time, a convincing enough show to fool me more than once.



Figure 3: Forest from which *Sabacon* specimens were collected.

I was not able to directly observe prey capture because the *Sabacon* was always disturbed when I moved its dish from the dark refrigerator into the light of the laboratory, but it often captured its prey within minutes after I returned the dish to the refrigerator. In one case, the *Sabacon* captured an Entomobryid in the few seconds that elapsed between my dropping the springtail into the dish (where the *Sabacon* was laying on its side feigning death) and positioning



the dish under a microscope for observation. It was easier to observe mastication of prey since the *Sabacon* was loath to drop its meal while eating. The harvestmen was not disturbed by the struggling of a mature Entomobryid, which forcibly struck out with its furcula as it was being consumed head first.

The male *Sabacon* I kept lived from the time when it was collected on November 5 until at least January 18, a span of 74 days. It had died by January 22 when I checked on it next.

## Alaska Entomological Bibliography 2007

by Matthew Bowser<sup>1</sup>

In order to document recent entomological work undertaken in Alaska, I sent requests for relevant literature references published in 2007 to the electronic mailing lists AkEntoNet-L (<https://lists.uaf.edu:8025/mailman/listinfo/akentonet-l>) and ENTOMO-L (<http://www.ent.iastate.edu/maillinglist/entomo-l/>). I also searched the internet and contents of pertinent journals for articles published in 2007 related to the study of entomology in Alaska. The resulting bibliography is probably not complete, but it lists at least most recent publications from 2007.

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## Field Season 2008: An Overview

by Matthew Bowser<sup>1</sup>

In order to document arthropod work planned for this year and to encourage collaboration, I called and e-mailed entomologists from around the state to find out what they would be doing over the field season of 2008. This overview is not exhaustive, but it summarizes what I have been able to find out at this time.

**Derek Sikes** of the **University of Alaska Museum (UAM)** will be sampling a transect between Fairbanks and Toolik Lake with flight intercept traps, pitfall traps, and Berlese funnels. **Jeff Williams** of the **Alaska Maritime National Wildlife Refuge, US Fish and Wildlife Service (USFWS)** and Sikes will be initiating an arthropod survey in the Aleutian Islands. Specimens will be collected at Aik-tak, Kasatochi, Buldir, and Agattu islands and possibly a few more sites, including Adak Island. He will also be collecting in the Aleutians (See announcement, page 10). In addition, Sikes has a collecting trip planned for Saba Island in the Lesser Antilles over spring break.

**Kenelm Philip**, founder and principle investigator of the **Alaska Lepidoptera Survey** and research associate at the **University of Alaska Fairbanks (UAF) Institute of Arctic Biology (IAB)**, UAM, and the **Smithsonian Institution** will be continuing to take live close-up photos of Alaskan butterfly species for his planned Alaska butterfly field guide. He expects to take one trip up the Dalton Highway, with possible trips to Haines, Denali National Park, Nabesna Road, and Nickel Creek (Yukon Territory).

**Pat Doak**, **Diane Wagner**, **Brian Young**, and **Brent Mortensen** (UAF IAB) will continue investigating the ecology of the aspen leaf miner, *Phyllocnistis populiella* Chambers, in the Fairbanks vicinity.

**Karsten Hueffer** and **Alison Triebenbach** (UAF IAB) will be sampling mosquitoes for potential presence of infectious disease agents at Fairbanks and Toolik Lake.

**Todd Sformo** (UAF IAB) continues his work on cold hardiness in arctic and subarctic insects. He recently added a new insect to his studies: the fungus gnat *Exechia nugatoria* Johannsen 1912, which was identified by **Dr. Peter H. Kerr** at the **California State Collection of Arthropods**.

**Dan Bogan** and **Dan Rinella** of the **University of Alaska Anchorage's Environment and Natural Resources Institute, Aquatic and Riparian Ecology Program** will concentrate on three areas this summer. They will be in the Nushagak River and Lake Iliamna drainages collecting benthic macroinvertebrates from wadeable streams documenting regional reference conditions for both macroinvertebrate and diatom assemblages. They will be collecting macroinvertebrates and algae from three streams in Tetlin National Wildlife Refuge, the second of three years of a monitoring and assessment project. They will also be collecting benthic macroinvertebrates (among other things) from the littoral zone from 50 lakes in the Cook Inlet Basin as part of a National Lakes Survey.

**John Hudson** (Alaska Aquatics Consulting) will be spending June 18–26 in Fairbanks and other localities in the region on a dragonfly project funded by the **USFWS**. The highlight of the trip will be the first annual Alaska Dragonfly festival to be held at Creamers Field in Fairbanks (See the announcement, page 10). **Bob Armstrong** (retired from the **Alaska Department of Fish and Game**) from Juneau will be participating as well. After the festival, they will travel to visitor centers in Coldfoot and Tok to give presentations and lead collecting trips.

Hudson will be continuing work with the University of Notre Dame and **Dr. Rich Merritt**, **Dr. Eric Benbow**, and graduate student **Emily Campbell** of **Michigan State University** on a project looking at the influence of spawning salmon on stream ecosystems on Prince of Wales Island, including aquatic invertebrate communities, across a gradient of watersheds from heavily logged to mostly pristine.



He will also be assisting Michigan State University graduate student **Duke Bush** (under Dr. Merritt) on a study of wetland insect communities on the Copper River delta near Cordova.

**Roger Burnside** at the **State of Alaska Department of Natural Resources** will conduct cooperative aerial forest pest detection surveys with **USDA Forest Service (USFS)** across forested areas of Alaska<sup>4</sup>. He will be sampling white-spotted sawyers (*Monochamus scutellatus*) for nematodes in the interior. Excised nematodes will be genetically tested and compared with known pathogenic nematode material (i.e., *Bursaphelenchus xylophilus*, the Pinewood Nematode). Roger will be studying how larch (*Larix laricina*) stands in Interior Alaska respond to insect disturbance, particularly in response to a massive larch sawfly (*Pristiphora erichsonii*) outbreak that occurred in the late 1990's to early 2000's associated with 80–100% larch mortality in affected stands over the course of the 5+ year sawfly outbreak. He will also be trapping and monitoring for non-native scolytids in south-central Alaska near potential ports of introduction in Anchorage and one or two locations on the Kenai Peninsula and participating in a bark beetle prevention/suppression project at Tok.

**John Hard, John Lundquist, and Ken Zogas (Forest Health Protection, USFS)** will wrap up a study at Silvertip Creek on the Kenai Peninsula where Lutz spruce (*Picea × lutzii*) were treated with methyl jasmonate, a naturally occurring plant growth hormone, to stimulate the trees to increase their resin production, hence their resistance, to spruce beetle attacks. They will be monitoring incipient populations of the birch leaf miner (*Profenusa thompsoni*) at the Kenai National Wildlife Refuge, Captain Cook State Recreation Area, Cooper Landing, and Soldotna. They will also be sampling arthropods along a “climate change” transect established last summer along the highway from Homer to Barrow.

Hard and Zogas are rearing birch leaf miners in the soil and will be checking emergent populations for signs of native parasitism. They will also be looking into increasing populations of *Heterarthrus nemoratus*, another invasive leaf mining sawfly in the Anchorage area and on the Kenai Peninsula.

Lundquist, Zogas, **Rob Progar** (from the **Pacific Northwest Research Station** in Corvallis, Oregon), and staff of the **UAF Cooperative Extension Service (CES) Integrated**

**Pest Management (IPM) Program** are wrapping up an integrated bio-control project conducted at the Alaska Botanical Garden in Anchorage where sites were treated with an aqueous solution of either the parasitic nematode *Steinernema carpocapsae* or the entomopathogenic fungus *Beauveria bassiana* for control of amber marked birch leaf miner.

**Mark Schultz (Forest Health Protection, USFS)** will conduct aerial surveys for forest pests in southeast Alaska. He and **Courtney Danley** will employ various traps for detection of pest species in the Juneau area.

**Michael Rasey, Cathy Turner, and Janice Chumley** of the **UAF/CES IPM Program** will continue to trap moth species through funding from the **Alaska Division of Agriculture** and **USDA Animal and Plant Health Inspection Service (APHIS)**. Delta, milk carton, and wing traps will be utilized to trap and monitor for multiple moth species including European and Asian Gypsy moths, Siberian Gypsy moths, Rosy Gypsy moths, and Nun moths. Traps will be placed in Anchorage and vicinity, Fairbanks and vicinity, Kenai Peninsula, Mat-Su valley, Haines, Skagway, Nome, Dillingham, Cordova, Valdez, Kodiak, and Dutch Harbor. This trapping effort will also concentrate on the European Yellow Underwing, *Noctua pronuba*, in 2008.

**Michael Rasey and Corlene Rose (UAF/CES IPM Program)** will continue to monitor for exotic and imported insects affecting urban and community forestry in 2008. In Anchorage, an emphasis will be placed on increased populations of the Sitka spruce weevil, *Pissodes strobi*, and Yellow-headed spruce sawfly, *Pikonema alaskensis*, which have begun to defoliate landscape spruce trees throughout the area. In addition, IPM technicians will continue to work with nursery and greenhouse operators to prevent introductions of Western tent caterpillars, *Malacosoma californicum*, that have regularly been brought in on nursery stock.

**Alberto Pantoja, Aaron Hagerty, and Dennis Fielding** at the **Subarctic Agricultural Research Unit, USDA Agricultural Research Service**, will pursue agriculture-related entomology projects in Fairbanks, Delta Junction, Palmer, and Wiseman. Pantoja will be researching insect vectors of plant diseases in potatoes in Alaska, focusing primarily on planthoppers, aphids, grasshoppers, and their predators and parasites. He will also be investigating insect pests of peones. Hagerty will be continuing work on ladybird beetles of agricultural settings. Fielding will continue research on Alaskan grasshoppers.

<sup>4</sup>See the Alaska Forest Insect and Disease Surveys web page at <http://forestry.alaska.gov/insects/surveys.htm> for more information.

# Announcements and Upcoming Events

by Matthew Bowser<sup>1</sup>

## Announcements

### Opportunity for Entomological Exploration in the Aleutian Islands

There is a good opportunity for entomological exploration in the Aleutian Islands and other areas with the Alaska Maritime National Wildlife Refuge (AMNWR). The refuge is interested in developing working relationships with entomologists curious about this remote region. The refuge does not have the ability to directly fund any projects, but is able to make opportunistic collections with staff and provide logistical support for entomologists who are interested in collecting from our 120ft research vessel, M/V *Tiglux*. The AMNWR would like to develop a refuge inventory of invertebrates and work with specialists/generalists able to make identifications and help achieve our objective. Jeff Williams is the vessel scheduler and wildlife biologist for the Aleutian Islands and would be interested in discussing options with interested entomologists. Jeff may be reached at 907-235-6546 or [jeff\\_williams@fws.gov](mailto:jeff_williams@fws.gov).

### Publication of *Insects of Southcentral Alaska*

*Insects of Southcentral Alaska*, a field guide by Dominique Collet, is to be available in bookstores this May. See the the publications page of the Kenai Watershed Forum at <http://www.kenaiwatershed.org/publications.html> for updated information.

## Upcoming Events

### Dragonfly Day, June 21

There will be a number of dragonfly-related activities in the interior this summer. On Thursday, June 19, dragonfly expert John Hudson and photographer/naturalist Bob Armstrong will present a public lecture on Alaska's dragonflies and damselflies at the University of Alaska Fairbanks Museum. Dragonfly Day will be held at Creamer's Field in Fairbanks on Saturday, June 21. This public event will feature displays, children's activities, and opportunities to learn about dragonfly identification and collection techniques. Additional educational opportunities will be held in Tok on June 22–23, Coldfoot on June 24–26, and in Galena in August.

More intensive training in odonate collection and identification will be held in Fairbanks on June 19–20. This training is targeted at agency biologists, but others are welcome to attend. Please contact Lisa Saperstein, Kanuti National Wildlife Refuge, at 907-456-0508 or [lisa\\_saperstein@fws.gov](mailto:lisa_saperstein@fws.gov) for additional information about any of these events.

### Field Foray, October 2008

A field foray will be held in southcentral Alaska in October 2008. The specific location and date will be announced on the AkEntoNet-L e-mail list (<https://lists.uaf.edu:8025/mailman/listinfo/akentonet-l>) and posted on the events page of the AKES website (<http://www.akentsoc.org/events.php>).

### Third Annual Meeting, October 2–3, 2009

The third annual meeting of the AKES will be held on October 2–3, 2009 at the University of Alaska Museum in Fairbanks.