Newsletter of the Michigan Entomological Society

Volume 55, Numbers 1 & 2 May 2010

Inside this Issue:

New MES Officers ... 2

The EAB SLAM Program ...4-8

MES Governing Board Minutes ... 9-10

MES Annual Meeting Registration Forms ...11 - 12

Karner Blue Butterfly Recovery Efforts ... 13-14

Supporting Imperiled Butterflies ... 13

Award to Ranger Steve ... 13

Blazing Star Borer ... 15

Harry King's Recollections ... 16

Owen Perkins 1930-2009 17-19

WMBA Field Trip Schedule .. 20

The MES Newsletter is published as four numbers per year

ISSN 1554-2092

2010 MES Dues Coming Soon

Because of the recent resignation of MES Secretary John Keeler, the 2010 dues notices have not yet been mailed.

2010 MES Election Forms

Included in this issue as an insert is the ballot form for President-Elect and Member-at-Large. Please vote and return your ballot promtly.

56th Annual MES Meeting: Saturday, 26 June 2010, Kettunen Center, Tustin, Michigan

Ethan Bright, President-Elect

701 Mt. Pleasant Ave., Ann Arbor, MI 48103. Email: ethanbr@umich.edu.

This year's Annual MES meeting will be held at the Kettunen Center, a full-service conference and retreat facility, owned and operated by the Michigan 4-H Foundation. It is located outside Tustin, Michigan, just 20 minutes south of Cadillac. The center contains 160 acres of rolling hills and forests on Center Lake in the glacial outwash region of northern Lower Michigan. The area, with abundant forest, wetland and river habitats, provides beauty, serenity, and tranquility in a natural setting with many opportunities to unwind and explore while taking care of business.

The Kettunen Center opened in 1961 as the first 4-H volunteer and youth training center in the nation. The center recently completed a renovation to its operation and added a learning center as well as dining, lodging and administrative facilities. Late June should be a fabulous time to visit the area, and the diversity of different habitats should provide attendees with ample opportunities to pursue their entomological interests. As in past years, we are having the annual meeting on Saturday, allowing attendee's ample time off to travel to the location. We are actively seeking papers, posters, and exhibits. The forms for registration and call for papers are included in this newsletter (pp 11-12) and on the MES website.

We are excited to announce that **Dr. May Berenbaum will be this year's featured speaker.** Dr. Berenbaum is Professor and Department Head of the Department of Entomology at the University of Illinois at Urbana-Champaign. She's an expert in the areas of plant-insect coevolution, influence of climate change on plant-insect interactions, and honey bees. In addition to authoring many scientific articles, she has also written numerous books on entomology for the general public, including *Buzzwords: A Scientist Muses on Sex, Bugs, and Rock 'N' Roll*, *Bugs in the System: Insects and Their Impact on Human Affairs*, and most recently *The Earwig's Tail: A Modern Bestiary of Multi-legged Legends*. Dr. Berenbaum will speak on the latest developments with regards to honey bee colony collapse disorder (CCD), and to what extent human changes to the environment are possibly influencing this problem. We are sure you will not want to miss this important and engaging presentation. Dr. Berenbaum should be available for informal discussions throughout the day.

The desired theme for this year's meeting is the impact of climate change – particularly in the Great Lakes region – on insect populations, distribution and conservation. Studies involving the interactions of changing temperature and precipitation regimes and insect distributions, population cycles, and diversity, the challenges of changing climate to habitat restoration or agricultural management, and the likelihood of increasing incidence of insect and waterborne diseases are encouraged. Of course, presentations dealing with ANY aspect of entomological research are always welcome. If there is sufficient interest, we would like to offer a Student Paper Competition with cash awards to the top three presentations. Please refer to the registration form for more information.

Continued on page 3

2009-2010 Officers of MES

President .....Erwin "Duke" Elsner
.....elsner@msu.edu

President-Elect.....Ethan Bright
..... ethanbr@umich.edu

Immediate .....Thomas Wallenmaier
Past President .....TWallen@hfcc.edu

Secretary..... Adrienne O'Brien
..... amobrien@umich.edu

Treasurer .....Tina Ciaramitaro
.....ciarami2@msu.edu

Member-at-Large (09-12)..... Ted Herig
..... he_rigs@hotmail.com

Member-at-Large (09-11).....Laurie Reed
.....lgreed@svsu.edu

Member-at-Large (07-10).....Steve Taber
.....swtaber@svsu.edu

Journal Editor..... Therese Poland
.....tpoland@fs.fed.us

Associate Journal ..... Anthony Cognato
Editor .....cognato@msu.edu

Associate Journal ..... Ronald Priest
Editor ..... priest@msu.edu

Newsletter Editor .....Robert Haack
.....rhaack@fs.fed.us

Webmaster .....Mark O'Brien
..... mfobrien@umich.edu

Current Annual Dues Schedule

Student (through High School) $12.00
Active $25.00
Institutional $45.00

ISSN 1554-2092

No New Arthropod Records Were Submitted for 2009

Robert Haack, Newsletter Editor

There were no new arthropod records submitted to Ron Priest during the past several months. If you discover a new state or provincial record, please consider submitting it for the spring issue of 2011.

MES Has a New Treasurer and Secretary

Robert Haack, Newsletter Editor

The MES Governing Board has been looking for a member to step forward to become Treasurer for the past couple years, and another to become Secretary for the past few months. Well, as luck would have it, we had two *non-members* step forward to become new MES members and at the same time fill these two positions as well! Tina Ciaramitaro will be the new MES Treasurer and Adrienne O'Brien will be the new MES Secretary. Again we thank Martin Andree and John Keeler for their past service to MES. Here is some background information on our two new officers.

Tina Ciaramitaro (ciarami2@msu.edu) is originally from St. Clair Shores, MI. She initially attended Michigan State University, earned a Bachelors of Fine Arts, and then began work as a graphic designer. But after several years of sitting in a cubicle, she returned to Lansing Community College and MSU to study biology and find a job that would allow her to work outdoors with a focus on invasive species. While at MSU, she became a student employee with the US Forest Service Insect Unit, which is located on the MSU campus. Just recently, Tina became a permanent employee with the US Forest Service Insect Unit as a Biological Science Technician, working primarily on emerald ash borer. For hobbies, Tina enjoys kayaking, backpacking, knitting and sewing.

Adrienne O'Brien (amobrien@umich.edu) is a horticulturist at University of Michigan's Matthaei Botanical Gardens and Nichols Arboretum in Ann Arbor, MI. Adrienne grew up in a big family on a dairy farm in eastern Upstate New York. She attended the State University of New York (SUNY) College of Environmental Science and Forestry, graduating with a BS in Zoology and minors in Entomology and Botany. Adrienne met and married Mark O'Brien, (our current MES Webmaster) while at SUNY and later moved to Ann Arbor in 1981 when Mark began work at the University of Michigan's Museum of Zoology. After various retail jobs, Adrienne began working as a horticulturist at the UM Matthaei Botanical Gardens. Throughout her 27 year career at the Matthaei Gardens, she has done just about everything, and is currently in charge of the herb garden, a new "whimsy" garden, several areas at the Arboretum, ordering plants, and growing all plant material for the Conservatory displays. To relax, Adrienne enjoys reading, sewing, and gardening at home with an aim to use plants that attract bees, wasps, flies and butterflies.

other lodging and camping facilities nearby in Cadillac, Michigan. Please go to http://www.cadillacmichigan.com/ for information on the area.

Directions. To drive to the Kettunen Center **from Central Michigan** (Lansing, 122 miles), take US 127 north just past Clare to US 10 west. Travel about 8 miles to the M-115 (Cadillac) exit, turn right. Stay on M-115 for approximately 25 miles and turn left on 20 Mile Rd. (yellow flashing light) towards Tustin. Travel about 8 miles to 145th Ave. and turn right. Follow the road around to the left to the Kettunen Center. **From Northern Michigan** (Alpena 150 miles, Marquette 295 miles, Gaylord 85 miles), take I-75 south to US 127 south to M-55 west to US 131 south. Go about 8 miles to exit 168 (Tustin). Turn left (east) 5 miles to 145th Avenue (just past Center Lake Bible Camp). Turn left. Follow the road around to the left and into the Kettunen Center. **From Southeastern Michigan** (Detroit 195 miles), take I-75 north to Bay City, go west on US 10 to Clare. After you merge with US 127 (just past Clare), stay in right lane and follow US 10 to M-115 (Cadillac) exit. Stay on M-115 for approximately 25 miles and turn left on 20 Mile Rd. (yellow flashing light) towards Tustin. Travel about 8 miles to 145th Ave. and turn right. Follow road around to the left and into the Kettunen Center. **From Western Michigan** (Grand Rapids 95 miles), take US 131 north (approximately 90 miles) to exit 168 (Tustin). Turn right and go 5 miles to 145th Avenue (¾ mile past Center Lake Bible Camp). Turn left. Follow the road around to the left and into the Kettunen Center.

Continued from page 1

Of course, we are allowing time to socialize with fellow MES members. Early arrivals can lodge and eat dinner on Friday night at the Kettunen Center. Several different levels of comfortable lodging are available at the Kettunen Center. You can view the choices at <http://www.kettunencenter.org/lodging.html>. The facility provides sheets, towels and showers. Meals are available at the center, which will allow time to catch up on conversation and meet with the speakers. Costs for meals and lodging at Kettunen Center are listed on the pre-registration forms. The Center provides a wide array of outdoor activities, including groomed hiking trails (self-guided or interpretive hikes with Kettunen Center staff), and arboretum and bird observation stations, outdoor fire pits, a lake with private beach, and swimming, boating, and fishing. There is also an indoor fitness area, as well as internet access in the conference and administrative areas. If you plan on staying Friday and/or Saturday nights, or arriving on Saturday for just the meeting and eating breakfast and lunch and partaking in coffee breaks, you are strongly encouraged to submit your pre-registration forms as soon as possible. There are many

Please contact Ethan Bright if you have questions about the meeting using the contact information above or by phone (734-355-6245). **See you in Tustin!**

SLAM: A Multi-Agency Pilot Project to SL.ow A.sh M.ortality Caused by Emerald Ash Borer in Outlier Sites

Therese M. Poland[1] and Deborah G. McCullough[2]

[1] USDA Forest Service, Northern Research Station, 1407 S. Harrison Rd, E. Lansing, MI 48823
Email: tpoland@fs.fed.us

[2] Departments of Entomology and Forestry, Michigan State University, E. Lansing, MI 48824

Since its discovery in southeast Michigan in 2002 (Haack et al. 2002), the emerald ash borer (EAB, Fig. 1), *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae), has continued to spread and kill ash (*Fraxinus*) trees at an alarming rate. As of February 2010, EAB has killed tens of millions of ash trees in Michigan, at least 12 additional U.S. states, and the Canadian provinces of Ontario and Quebec (Fig. 2, EAB Info 2010). Early efforts to eradicate isolated infestations were expensive and generally unsuccessful. While federal quarantine regulations minimize long-range artificial movement of ash, they do little to reduce natural dispersal of EAB, population build up, and the resulting local progression of ash mortality. When new infestations of EAB are found, local residents, municipal foresters and resource managers are left to cope with EAB on their own.

Researchers have made considerable progress in developing survey tools and management tactics for EAB (Poland and McCullough 2006, Poland 2007). These tools are now being put to use in a pilot study in Michigan's Upper Peninsula. The project is designed to develop, implement and evaluate an integrated strategy to delay the onset and progression of ash mortality in outlier sites that are relatively isolated from major EAB infestations. The integrated approach to SL.ow A.sh M.ortality, or SLAM as it is called, was developed and is being tested cooperatively by scientists and partners from Michigan State University, the USDA Forest Service, Michigan Technological University (MTU), the Michigan Departments of Agriculture (MDA) and Natural Resources and Environment (MDNRE), and the USDA Animal and Plant Health Inspection Service (APHIS).

Figure 1. EAB adult feeding on ash. Photo by Deborah Miller,USDA Forest Service.

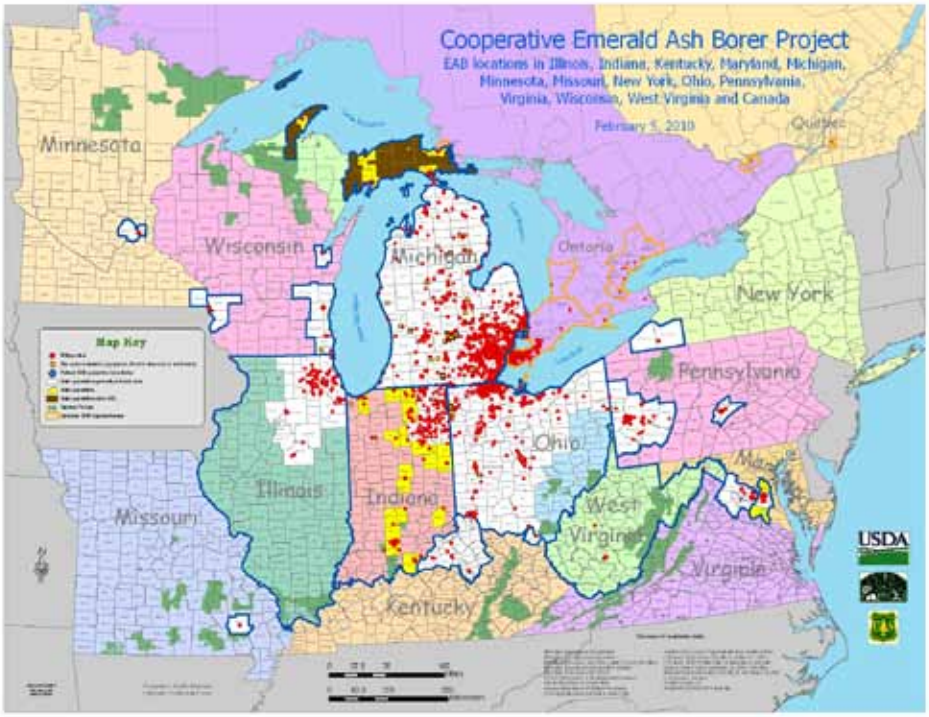

Figure 2. EAB North American distribution as of 5 February 2010 (EAB Info 2010)

The SLAM approach does not aim to eradicate isolated infestations. Rather, the goal of SLAM is to reduce EAB population growth, which in turn, slows the progression of widespread ash mortality within and beyond the project area. Slowing the rate of ash mortality provides time for resource managers, municipalities and property owners to be proactive, instead of simply reacting to overwhelming numbers of dead and often hazardous trees. For example, forest managers can use the time to set up timber sales and develop regeneration plans for sites dominated by ash. Municipal foresters can develop long-term plans to treat or replace vulnerable ash trees in the landscape with alternate species. The SLAM program incorporates 1) surveys to determine EAB distribution and density, 2) inventories or surveys to assess ash abundance and distribution, 3) activities to suppress EAB populations, 4) regulatory measures, and 5) public information and outreach campaigns.

The SLAM Pilot Study Sites

The multi-agency pilot study to evaluate the SLAM approach focuses on sites near Moran and St. Ignace in Mackinac County, just north of the Mackinac Bridge in Michigan's Upper Peninsula (Fig. 3). These two distinct, isolated infestations of EAB were detected in 2007 when a girdled ash tree, used to survey for EAB, was debarked and found to be infested with EAB larvae. Surveys in the fall of 2007 identified 13 infested trees near Moran. The infestation appeared to be relatively recent. Only one tree had EAB exit holes and tree ring analysis suggested the infestation was probably less than 4-6 years old. A single infested tree was also found in Straits State Park near St. Ignace in fall 2007.

SLAM is likely to be most successful in isolated EAB outlier sites that are geographically distinct from well-established EAB infestations. The probability of success will also be greater if the EAB infestation is relatively recent and ash mortality is minimal or concentrated in a small area.

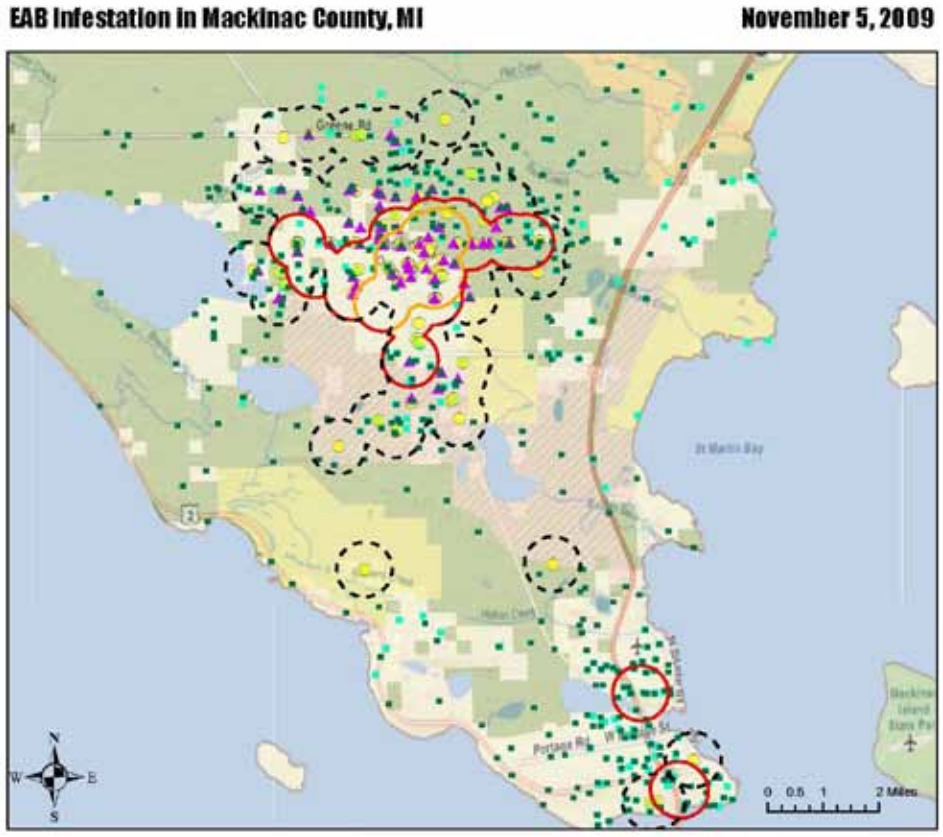

Figure 3. EAB infestation at the Moran sites (northern clusters) and St. Ignace sites (southern clusters) in Mackinac County, MI. Boundary lines at 0.5 miles from the last infested trees are indicated for 2007 (yellow), 2008 (red), and 2009 (black dashed). Map produced by Amos Ziegler and Gabriel Carballo, Michigan State University, using ash inventory and EAB detection survey data gathered by the EAB SLAM multi-agency team.

Thus, both the Moran and St. Ignace sites were considered good candidates for testing the SLAM management approach. In 2008 and 2009, additional surveys with girdled trees and traps were conducted and in 2009 suppression treatments were initiated.

Implementing the SLAM Program

1. Surveys of EAB distribution and density. After the discovery of the two outlier infestations near Moran and St. Ignace in 2007, initial delimiting surveys were conducted. These consisted of relatively rapid assessments of the situation using visual surveys and destructive sampling of suspect trees.

In 2008, an extensive systematic grid-based survey was conducted to more accurately determine the extent of the infestation as well as to determine EAB spatial distribution and density. Surveys were conducted using girdled trap trees (ash trees with a band of bark and phloem removed around the circumference of the tree) and artificial sticky traps. Girdled ash trees, especially open-grown trees, are significantly more attractive to EAB than healthy ash trees and can be used for survey and detection (McCullough et al. 2009a, 2009b). When girdled trees are debarked in fall, survey crews can record the number of EAB larvae on each tree and their life stages. This enables researchers to estimate EAB density in the project area and the locations where adult EAB are likely to be abundant the following year.

Artificial traps have been developed incorporating attractive visual and olfactory cues. Odors from the leaves of stressed ash trees (Rodriguez-Saona et al. 2006), ash leaf volatiles (deGroot et al. 2008, Grant et al. 2010) and volatiles from ash bark (Crook et al. 2008) elicit antennal responses and are attractive to EAB. The beetles are also attracted to certain colors including purple (Francese et al. 2005) and a bright shade of light green (Crook et al. 2009) as well as to large visual silhouettes that mimic open-grown trees (McCullough et al. 2008). Artificial traps used in the SLAM pilot study consisted of purple prism panels coated with Pestick to capture beetles. Traps were hung in the canopy of ash trees and baited with Manuka oil or an 80:20 mixture of Manuka and Phoebe oil. These natural oils contain several attractive volatiles found in ash bark. Although not as effective as girdled trees, artificial sticky traps are less costly and do not require trees to be destroyed. Girdled trees are more suitable to accurately delimit a known infested area and obtain data on EAB development rate and population density, but traps can be used when ash trees are not available for girdling.

The 2008 EAB survey was based on systematic grids of girdled trees. Artificial traps were used when an ash tree was not available for girdling. In the core area, (i.e., within a 1.5 mile radius from the outermost infested trees identified in the initial 2007 delimitation survey) 1 trap tree was located in each 40 ac grid cell (16 grid cells per square mile). APHIS officials also required that a trap be placed in each 40 ac grid cell; therefore, when possible, 40 ac grid cells contained both a trap tree and an artificial trap. In the next 1.5 mile band surrounding the core area (the area bounded by the 1.5 to 3 mile radii from the last known positive tree), 1 trap tree or trap was located in each 160 acre grid cell (4 grid cells per square mile). Finally 1 trap tree or trap was installed per square mile in the area bounded by the 3 to 6 mile radii from the last known positive tree.

At the Moran site, 24 infested trees were found in 2008, harboring an average of 7.8 EAB larvae per m^2 of bark surface area, which represents a very low density of EAB. In addition, 4 satellite infestations were found, more than 800 m away from what appeared to be the core infestation. Adult EAB were captured on 10 of the purple traps, but at least 8 of the positive traps were hung in girdled trees. The infestation in Straits Park and St. Ignace was smaller; eight girdled trees had larvae and one infested tree was found just north of the city of St. Ignace. Although the 2008 survey results indicated that the EAB infestations were relatively small and no trees had any visual symptoms of EAB injury, it was clear the EAB populations were building and beginning to disperse and that management activities were warranted.

Surveys to assess EAB distribution were repeated in 2009. As in 2008, trees were girdled in early to mid-June and cut and debarked in September and October. Suppression treatments were implemented in 2009 (see below) along with continuing surveys following the same systematic grid-based survey protocols. The locations of positive traps and trap trees and 0.5 mile boundaries beyond the last infested tree for each year are presented in Figure 3.

2. Ash Density and Distribution. A reasonably accurate assessment of ash abundance,

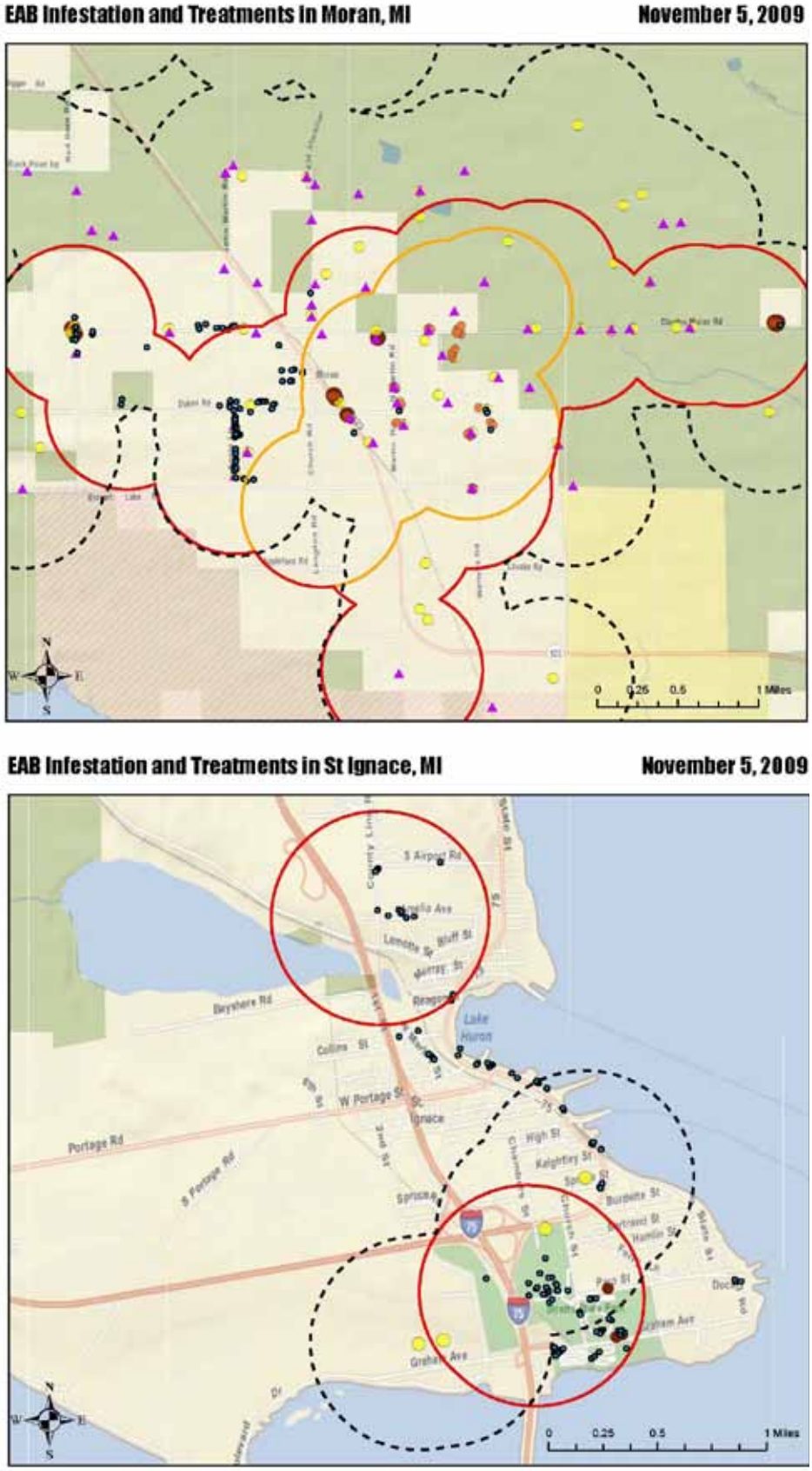

Figure 4. Maps of emerald ash borer SLAM pilot study sites in (a) Moran (upper) and (b) St. Ignace (lower), indicating the locations of traps (purple triangles) and detection trees (yellow circles) that were removed, trees treated with insecticide (blue circles) , and clusters of girdled sink trees (orange and brown circles). Maps produced by Amos Ziegler and Gabriel Carballo, Michigan State University, using ash inventory and EAB detection survey data gathered by the EAB SLAM multi-agency team.

distribution and size is important for planning suppression treatments and evaluating the efficacy of management activities. Knowledge of the local ash resource is necessary to identify trees to be used for trap trees, sink trees, insecticide treatments, or for harvest and utilization. Estimates of the density and distribution of the existing EAB population, combined with systematically collected ash data can be used by researchers and managers to model and evaluate EAB population buildup and spread, the progression of ash mortality, and the impact of management activities.

For the SLAM pilot study, fairly detailed ash inventory data are being collected in order to accurately evaluate the project. Intensive ash surveys are expensive. In an operational program, of course, intensive inventory, analysis, and evaluation won't be necessary and less expensive systematic surveys can be used to provide the information necessary to implement treatments. In 2009, an intensive effort to systematically inventory ash trees from ground surveys was launched. Ash data were also obtained from US Forest Service FIA (Forest Inventory and Analysis) data and stand maps, St. Ignace street tree inventories, and surveys of ash within the city limits and Straits State Park, as well as data from EAB detection trees.

3. Suppression of EAB Populations. A number of viable treatment options are available to reduce EAB population densities and minimize population build up. Suppression treatments include a) removal of infested trees, b) insecticide treatments, c) clusters of 3-4 girdled trees, and d) ash utilization or selected ash removal to reduce brood material. Biological control with native or introduced natural enemies may also become part of SLAM programs in some areas. Some or all of these activities can be combined and integrated in the SLAM approach. Implementation of tactics is site-specific and depends on the local distribution and abundance of ash trees, the existing EAB population levels, and a variety of other local situations that can affect which activities are preferred or not available because of particular constraints. At the SLAM pilot study sites, a combination of tree removal, insecticide treatment, sink trees, and ash utilization has been implemented (Fig. 4, details described below).

A. Removal of infested trees. Removal of trees known to be infested with EAB can help to reduce the EAB population within SLAM sites if the infested trees are destroyed before EAB adults emerge. EAB

infested trees can produce approximately 90-100 adults per square meter (8-10 EAB per square ft) of bark surface area. A single 20 inch (50 cm) diameter ash tree, therefore, has the potential to produce about 3600-4000 beetles before it succumbs (McCullough and Siegert 2007). At the SLAM sites, all detection trees and trees found to be infested were cut and destroyed during the fall of 2007, 2008 and 2009 (Fig. 4a, 4b, where yellow circles represent detection trees with larvae that were removed and destroyed, uninfested detection trees were also removed and destroyed but are not displayed on the maps).

B. Insecticide treatments: Several insecticide products have been tested for control of EAB, including cover sprays, soil applications, bark-penetrating trunk sprays, and stem injection with systemic insecticides. Of all the products tested, trunk injection with TREE-äge™ (emamectin benzoate) appears to offer the highest level of control. Studies have found excellent control for at least 2 years after a single injection (Herms et al. 2009, McCullough et al. 2010) Larval densities in treated trees were reduced by more than 99% compared to untreated trees and mortality of adult EAB that were fed leaves from treated trees was 100% (McCullough et al. 2010). Systemic injection with imidacloprid can also provide control but study results have been variable and it must be applied annually (Herms et al. 2009, McCullough et al. 2010). Basal trunk sprays with dinotefuran provide levels of control similar to imidacloprid (McCullough et al. 2010). Soil applications of imidacloprid products have provided variable levels of control and effectiveness has been especially inconsistent on large trees (Herms et al. 2009, McCullough et al. 2010).

At the SLAM sites, trees were injected in 2009 with TREE-äge™ (Fig. 4a, 4b, where small blue circles represent trees injected with insecticides). The goal was to create a buffer zone roughly 400 to 800 m around the outermost infested trees in the core area, to intercept and kill EAB that disperse out of the core. Selection of trees for treatment, however, had to be based on tree availability, land ownership, and accessibility. Currently, insecticide treatments are not permitted on U.S. National Forest land that falls within the SLAM project area.

C. Sinks of girdled trees. In addition to functioning as detection tools, girdled trees can concurrently serve as "sinks" for the next generation of EAB. If girdled trees are removed and destroyed before the next generation of adult EAB emerge, a large component of future EAB adults can be eliminated. Clusters of girdled trees provide an even more powerful attraction source than individual girdled trees and can influence dispersing EAB adults and the spatial distribution of the population (Siegert et al. 2010). In an ongoing study, EAB adults were strongly attracted to 10-acre plots with clusters of girdled trees while few EAB larvae were on trees in adjacent 10 acre plots that were untreated. Establishing clusters of sink trees inside the core of an outbreak rather than on the outer edges may help retain beetles within the core and reduce the likelihood of EAB adults dispersing to distant trees.

At the SLAM sites, clusters of 3-4 girdled trees were established in the core areas at Moran, St. Ignace, and in the vicinity of the satellite populations, along with the individual girdled trees used for the grid-based EAB detection surveys. All clusters of girdled trees were inside the known boundaries of the core and were cut, debarked and destroyed during fall of the same year (Fig. 4a, 4b, where orange and brown circles represent clusters of girdled trees where larvae were or were not found, respectively. All clusters were within the core outlined by the red boundary).

D. Ash Utilization. Harvesting ash trees for timber or firewood reduces the ash phloem that EAB larvae need for development. Large ash trees, which typically make up < 10% of the ash trees at any given site, can potentially produce hundreds to thousands of EAB adults. Small ash trees, on the other hand, are usually abundant but collectively account for relatively few of the EAB produced in a site. Removing a few large trees can sometimes eliminate much of the available food for EAB larvae. Unfortunately, reducing ash phloem by itself is unlikely to slow EAB spread. Spread rates could potentially increase because beetles are forced to fly further to locate a suitable host tree. An integrated approach that focuses on insecticide treatments combined with girdling and sink trees will be more effective at slowing EAB population growth than simply reducing ash phloem (Mercader et al. 2010a, 2010b).

A phloem reduction project was completed at the Moran project site on the Hiawatha National Forest in March 2008. In an area of 550 acres, 445 large ash trees (30 cm dbh or larger) were felled along with an additional 100 smaller ash trees. Trees were dropped onto the ground and cut into smaller sections (< 1 m lengths) and left in the woods. Although the trees were probably not infested, the logs were bucked to enhance desiccation and reduce survival of any EAB larvae that may have been present in the trees. In addition, guidelines were developed to encourage harvesting of ash trees in any timber sale on the National Forest lands. Consulting foresters worked with private property owners in the Moran area to set up timber sales, which included harvesting of merchantable ash trees. Efforts were also directed to encourage landowners to use ash on their property for firewood.

E. Biological Control. To date, woodpeckers remain the most important natural enemy of EAB larvae. Predation rates of up to 90% have been recorded at some sites. Unfortunately, woodpecker predation is not consistent; at some sites few or no EAB larvae are killed by woodpeckers. Attracting woodpeckers into a local area and enhancing predation of EAB larvae could help reduce EAB densities, and can also help locate very lightly infested trees. Potential options for increasing woodpecker predation include providing suet during the summer when the birds are raising their offspring. Retaining woodpeckers in selected sites throughout the year could enhance predation on EAB during the winter and spring.

Much effort has been directed toward development of biological control for EAB. Three parasitoids native to China have been extensively studied in quarantine or containment laboratories in the United States. and were granted approval for release in 2007 (Bauer et al. 2008). Rearing and production of the parasitoids is difficult, expensive, and labor intensive. The implementation of other treatments (removal of infested trees, insecticide treatments, removal of girdled trees, and ash utilization and phloem reduction) at the SLAM sites may make it more difficult for released natural enemies to locate EAB hosts and become established. Therefore, there are no immediate plans to release the Chinese parasitoids at the Moran and St. Ignace SLAM sites. However, natural enemy releases at these sites could be considered in the future if EAB populations build up and spread to the point that establishment is likely. There are plans to release two of the three Chinese parasitoids at different isolated infestations in the Upper Peninsula that were more recently discovered in Houghton, Delta and Schoolcraft Counties.

4. Regulatory Measures. Quarantines that regulate the transport of ash logs, firewood, nursery trees and related commodities that could harbor EAB are a basic management tactic imposed in all locations where EAB has been found. This is no different in the SLAM project area. It is imperative that EAB life stages are not transported from the SLAM sites to un-infested areas. Some of the SLAM project activities generate ash logs and firewood that may

contain EAB life stages, but the material is destroyed or used within the existing quarantine regulations.

5. Public Outreach and Education. Success of the SLAM pilot project requires support from local residents and landowners. Eliciting this support requires residents and landowners to be fully informed about the goals, methods, and results of the project. There have been several public meetings, newspaper articles, extension bulletins and information displays in Moran and St. Ignace since 2007. Residents and landowners are kept apprised of the progress and plans associated with the SLAM project and all activities in their area.

Evaluating the SLAM Pilot Study

A simulation model has been developed that predicts how EAB populations will grow and spread based on ash abundance and distribution at a particular site (Mercader et al. 2010a, 2010b). It can be used to predict how EAB populations and ash mortality are likely to advance over time if no action is taken. The model can also estimate effects of activities such as insecticide treatment, girdled trees or phloem reduction on EAB spread and ash mortality at a specific site.

At the SLAM sites, detailed EAB and ash distribution data are being gathered through intensive surveys. These data will be used to model how EAB populations build up and spread in the absence of any management. The model results can then be compared to what is actually observed at the SLAM sites to evaluate the success of suppression tactics. Costs and benefits of the SLAM approach will also be quantified. Recent estimates indicate that the economic costs likely to be incurred by U.S. municipalities with ash landscape trees in a 25-state area predicted to be infested by EAB in the next decade, will exceed $10 billion by 2020 (Kovacs et al. 2010). If the SLAM approach can slow EAB and associated ash mortality in the U.S., people and ecosystems would benefit substantially by the postponement of having to deal with EAB.

References

Bauer, L.S., H. Liu, and J. Gould. 2008. Progress on biological control of emerald ash borer, pp. 56-58. In: V. Mastro, D. Lance, R. Reardon, and G. Parra (Compilers), Emerald Ash Borer Research and Technology Development Meeting, 23-24 October 2007, Pittsburgh, PA. USDA Forest Service, Forest Health Technology Enterprise Team, Morgantown, WV, FHTET 2008-07.

Crook, D., A. Khrimian, I. Fraser, J.A. Francese, T.M. Poland, and V.C. Mastro. 2008. Development of a host-based semiochemical lure for trapping emerald ash borer, *Agrilus planipennis* (Coleoptera: Buprestidae). Environ. Entomol. 37: 356-365.

Crook, D., J. Francese, K. Zylstra, I. Fraser, A. Sawyer, D. Bartels, D. Lance, and V. Mastro. 2009. Lab and field responses of emerald ash borer to selected regions of the electromagnetic spectrum. J. Econ. Entomol. 102: 2160-2169.

de Groot, P., G.G. Grant, T.M. Poland, R. Scharbach, L. Buchan, R.W. Nott, L. MacDonald, and D. Pitt. 2008. Electrophysiological response and attraction of emerald ash borer to green leaf volatiles (GLVs) emitted by host foliage. J. Chem. Ecol. 34: 1170-1179.

EAB INFO. 2010. Emerald Ash Borer. (http://www.emeraldashborer.info/index.cfm)

Francese, J.A., V.C. Mastro, J.B. Oliver, D.R. Lance, N. Youssef, and S.G. Lavallee. 2005. Evaluation of colors for trapping *Agrilus planipennis* (Coleoptera: Buprestidae). J. Entomol. Sci. 40: 93-95.

Grant, G.G, K.L. Ryall, D.B. Lyons, and M.M. Abou-Zaid. 2009. Differential response of male and female emerald ash borers (Col., Buprestidae) to (Z)-3-hexenol and manuka oil. J. Appl. Entomol. 134: 26-33.

Haack, R.A.; E. Jendak, H. Liu, K. Marchant, T.R. Petrice, T.M. Poland, and H. Ye. 2002. The emerald ash borer: a new exotic pest in North America. Newsletter Mich. Entomol. Soc. 47(3&4): 1-5.

Herms, D.A., D.G. McCullough, D.R. Smitley, C.S. Sadof, R.C. Williamson, and P.L. Nixon 2009. Insecticide options for protecting ash trees from emerald ash borer. National IPM Center, Illinois. 12 p. (Available at http://www.emeraldashborer.info/index.cfm)

Kovacs, K.F., R.G. Haight, D.G. McCullough, R.J. Mercader, and N.W. Siegert. 2010. Cost of potential emerald ash borer damage in U.S. communities, 2009-2019. Ecol. Econ. 69: 569-578.

McCullough, D.G., and N.W. Siegert. 2007. Estimating potential emerald ash borer (Coleoptera: Buprestidae) populations using ash inventory data. J. Econ. Entomol. 100: 1577-1586.

McCullough, D.G., T.M. Poland, A.C. Anulewicz, and D.L. Cappaert. 2008. Double-decker and towers: Emerald ash borer traps in 2007, pp. 73-75. In V. Mastro, D. Lance, R. Reardon, and G. Parra (Compilers), Emerald Ash Borer Research and Technology Development Meeting, 23-24 October 2007, Pittsburgh, PA. USDA Forest Service, Forest Health Technology Enterprise Team, Morgantown, WV, FHTET 2008-07.

McCullough, D.G., T.M. Poland, and D. Cappaert. 2009a. Emerald ash borer (*Agrilus planipennis*) attraction to ash trees stressed by girdling, herbicide or wounding. Can. J. For. Res. 39: 1331-1345

McCullough, D.G., T.M. Poland, A.C. Anulewicz, and D.L. Cappaert. 2009b. Emerald ash borer (Coleoptera: Buprestidae) attraction to stressed or baited ash trees. Environ. Entomol. 38: 1668-1679.

McCullough, D.G., A.C. Anulewicz, T.M. Poland, P. Lewis, and J. Molongoski. 2010. Evaluation of emamectin benzoate and neonicotinoid insecticides: two year control of EAB? In Proceedings of the Emerald Ash Borer Research and Technology Development Meeting, 20-21 October 2009, Pittsburg, PA. USDA Forest Service, Forest Health Technology Enterprise Team, Morgantown, WV. FHTET. In press.

Mercader, R.J., N.W. Siegert, A.M. Liebhold, and D.G. McCullough. 2010a. Simulating the influence of the spatial distribution of host trees on the spread of the emerald ash borer, Agrilus planipennis, in recently colonized sites. Population Biol. (In review)

Mercader, R.J., N.W. Siegert, A.M. Liebhold, and D.G. McCullough. 2010b. Estimating the effectiveness of three potential management options to slow the spread of emerald ash borer populations in localized outlier sites. Can. J. For. Res. (In review)

Poland, T.M.; and D.G. McCullough. 2006. Emerald ash borer: Invasion of the urban forest and the threat to North America's ash resource. J. For. 104: 118-124.

Poland, T.M. 2007. Twenty Million Ash Trees Later: Current status of emerald ash borer in Michigan. Newsletter Mich. Entomol. Soc. 52(1&2): 10-14.

Rodriguez-Saona, C., T.M. Poland, J.R. Miller, L.L. Stelinski, G.G. Grant, P. de Groot, L. Buchan, and L. MacDonald. 2006. Behavioral and electrophysiological responses of the emerald ash borer, *Agrilus planipennis*, to induced volatiles of Manchurian ash, *Fraxinus mandshurica*. ChemoEcology 16: 75-86.

Siegert, N.W., D.G. McCullough, R.J. Mercader, and S.J. Pierce. 2010. Dispersal of emerald ash borer at newly colonized sites. In: Proceedings of the Emerald Ash Borer Research and Technology Development Meeting, 20-21 October 20-21, Pittsburgh, PA. USDA Forest Service, Forest Health Technology Enterprise Team, Morgantown, WV. FHTET. In press.

Minutes: Michigan Entomological Society Governing Board Meeting, 20 November 2009. 1 - 3 pm. US Forest Service Office, Nisbet Building, MSU Campus

Present: Board Members: Duke Elsner (President), Ethan Bright (President-Elect), Ted Herig (Member-at-Large), Laurie Reed (Member-at-Large), Ron Priest (Associate Journal Editor), Therese Poland (Journal Editor), Bob Haack (Newsletter Editor)

Note: The MES Secretary John Keeler was not present for this meeting and these minutes are sketchy at best. They are based on the notes made at the time by Laurie Reed, who did not realize until after the meeting that she would be asked to formally prepare the actual minutes.

1. Introductions
2. Approval of Minutes of the Annual Meeting on October 9, 2009. No minutes were available because the Secretary was not present at the Annual Meeting and no one else took complete notes.
3. Officer's Reports
a) Treasurer's Report: A formal Treasurer's report is still coming from Martin Andree. It was estimated, however, that the society has about $20K in the bank. Martin has proposed an increase in page charges for the Great Lakes Entomologist journal but has not fully explained his reasoning for this. We need to see financial records before any such thing is considered.
b) Secretary's Report: None.
c) Journal Editors' Report: Volume 41 for Fall 2008 is about to come out in approximately two weeks. We have a mishmash of journal notices and checks and renewals and we need a protocol for how to handle checks and related items. Should mail go to the Secretary or the Treasurer first? Is there confusion or simply lack of communication between the Secretary and Treasurer regarding journal subscriptions and renewals?
d) Newsletter Editor's Report: The next issue is almost ready to be finalized and mailed in mid-December. Still waiting for a few promised articles.
4. Old Business
a) Treasurer Position: We need to actively search for a Treasurer. A few names were suggested and GB members will approach these members.
b) Status of Constitution and Bylaws: Bylaws changes were approved at the 2009 MES Annual Meeting but Constitution change needs a year to follow the formal protocol. We should put the details into the upcoming newsletter.
c) Review of 2009 Annual Meeting: The hope was to increase attendance by having a fall meeting on a Friday. Although the 2009 conference was a great meeting, there was still very low attendance by university faculty and graduate students. Was the timing wrong or the program not scientific enough? Should we renew the awards for student contributions? Perhaps there are just too many meetings for a state-level meeting to compete for professional entomologists. A decision was made to return to the usual format of a Saturday meeting during early summer.
5. New Business
a) Electronic format for the journal: Should we consider moving the GLE journal purely to an electronic format? We will table this item for a while and discuss the idea with the membership.
b) Scheduling of the 2010 annual meeting: Where should we have it? Tustin? Novi? Should there be a particular theme, perhaps climate change? Mid-June is about the right time frame.
c) 2010 Breaking Diapause date: Saturday, March 13, 2010 on the MSU campus with a GB meeting at about noon.
d) Mailing costs to out-of-country members/subscribers: Costs are rising. Should we add a surcharge to mail items out of the country? We do have members in Canada and in Britain. Perhaps we could offer them a choice of either print or pdf versions of newsletter and GLE? But perhaps a password-protected system would be needed to secure these parts of the MES website. We will table this item for now to allow time to discuss with the membership.
6. The meeting was adjourned at approximately 3 pm.
Notes prepared by Laurie Reed, Member-at-Large

Minutes: Michigan Entomological Society Governing Board Meeting, March 13, 2010, 11:30 am – 1:30 pm, 401 Natural Science Building, MSU Campus

Present: Board Members: Duke Elsner (President), Ethan Bright (President-Elect), Ted Herig (Member-at-Large), Laurie Reed (Member-at-Large), Ron Priest (Associate Journal Editor), Steve Taber (Member-at-Large), Therese Poland (Journal Editor), Bob Haack (Newsletter Editor), Tina Ciaramitaro (Treasurer). **Guests:** Patrick Gorring, Dan Swanson

1. Introductions
2. Approval of Minutes of November 20, 2009 meeting. No minutes were available; this item was tabled until the next meeting of the Governing Board.
3. Officer's Reports
a)Treasurer's Report: The Governing Board (GB) welcomed Tina Ciaramitaro as the new MES Treasurer and thanked former Treasurer Martin Andree for his years of service to the MES. Tina is still very new to the position and is learning the ropes. No formal report was submitted, although there was some discussion of whether she should prepare a yearly financial statement for presentation to the Society, even though one is not needed for the IRS. New banking arrangements have been made with Chase Bank in East Lansing, using Tina's Forest Service address as the contact address on checks and deposit records. Currently MES has about $18K in checking and a certificate of deposit for about $7K. Tina reported that the copy of Quickbooks software used to create the Treasurer's database was sufficiently old that it would not install on her computer and so the GB gave its authorization for her to find and purchase a new version.
b) Secretary's Report: The Secretary was not present so it was determined that Laurie Reed would record the minutes.
c) Journal Editors' Report: Therese Poland and Ron Priest distributed a written report of Journal activities and issues. Therese proposed the appointment of MSU entomologist and faculty

member Anthony Cognato as an Associate Editor for papers dealing with taxonomy or systematics. The GB approved this request unanimously.

Regarding the issue of page charge waivers or subsidy requests for Journal papers, the GB decided to apply some sort of yearly cap on the amount of money available for this, but it was unclear exactly what the cap should be. Another option discussed was that page charge bills be divided into installments so that authors would not have to pay a large amount of money upfront. Tina will investigate possible amounts for page charge waivers or subsidies based on the financial health of the society and report back at the next GB meeting. It was generally agreed, however, that MES can't keep agreeing to subsidies without some formal guidelines.

It has recently been determined that some institutions are receiving the Journal free of charge because of the Society's recordkeeping errors. A letter has been drafted that will be sent to these institutions to ask for payment. The sample letter was generally approved and will be sent out to the relevant institutions.

d) Newsletter Editor's Report: The next issue is almost ready to be finalized and mailed. Missing yet are details from the President-Elect about the June 2010 annual meeting and any new state arthropod records. Meeting details were said to be forthcoming.

4. Old Business

a) Tina Ciaramitaro has taken over the job of Treasurer and a letter or other token of appreciation should be sent to Martin Andree.

b) The MES website needs to be updated. Mark O'Brien has said that he will continue as the Society's webmaster.

c) MDNRE Wildlife Stakeholders meeting: Duke Elsner attended the recent meeting in Grayling and summarized the results. The meeting was mostly an information-gathering and relationship-building opportunity for MDNRE. Officials were most interested in deer and turkeys issues but were also open to discussions about listed insects.

5. New Business

a) Voting Members of the GB: Discussion was held about who is and is not a voting member of the MES GB. Duke Elsner, Bob Haack and Steve Taber offered to review the MES constitution and by-laws documents and also those of other societies to see how the MES documents might be updated and whether or not a full society vote needs to be taken on any changes. A related issue is whether or not a quorum number must be attained before any votes can be considered binding.

b) Routing of MES Mail: Currently there is a mailbox for MES at the MSU Dept of Entomology. This mailbox is checked several times per week by Ron Priest and he distributes the mail accordingly. But it has become clear that this system is not working smoothly because the Secretary has not been able to respond in a timely fashion. After much discussion it was decided that all printed mail, especially if it involves money matters be routed to Tina first. Note added March 18, 2010: As of this morning, John Keeler announced to the GB via email that he has resigned as MES Secretary. The GB is now considering how to proceed, but it seems likely that a slight realignment of the duties of both Secretary and Treasurer will occur. It was suggested that a current GB member take over as the new Secretary.

c) Nominees for President-Elect and Member-at-Large: Elections need to occur in time for the results to be announced at the June Annual Meeting. Several names were proposed for the candidates for the two positions. Note added March 18, 2010: As of today, the confirmed nominees are Toby Petrice for President-Elect; and Dave Cuthrell, Harry King and Zsonfia Szendrei for Member-at-Large.

d) 2010 Annual Meeting Update by Ethan Bright, President-Elect: The annual meeting will occur June 26 at the Kettunen Center near Cadillac, MI. The meeting registration fees will be $16.25 per person plus meals and accommodations. Ethan has written a personal $200 check to hold the reservation for the meeting and will see Tina about getting reimbursed. The keynote speaker tentatively booked is May Berenbaum, Chair of the Dept of Entomology at the University of Illinois at Urbana-Champaign. Possible focal points for the meeting include honey bees or climate change.

e) Official Status of Breaking Diapause: We want to keep Breaking Diapause as an official society social function but also emphasize to the membership next year that informal presentations are also possible. As well, volunteers are needed and encouraged to help with food and other arrangements.

f) Official Recognition for Past Officers: The GB needs to consider options to acknowledge the service of past officers to MES. These acknowledgements may consist of such gestures as engraved plaques and articles in the Society Newsletter. Duke offered to check out the prices of plaques in E. Lansing and report back to the GB.

6. The meeting was adjourned at approximately 1:30 pm.

Notes prepared by Laurie Reed
Member-at-Large

2010 Natural History Courses

are being offered by the Humboldt Institute in Steuben, ME. Among the many summer field courses offered in 2010 are the following insect-related courses:

Lepidoptera of the Northeast (June 13-19, Brian Scholtens),

Dragonflies and Damselflies (July 4-10, Ronald Butler),

The EPT Taxa: Taxonomy and Biomonitoring: Ephemeroptera, Plecoptera, and Trichoptera (Aug 8-14, Steven K. Burian), and

Spiders (Aug 15-21, Mathias Foellmer).

Contact information: Phone 207-546-2821, Fax 207-546-3042, E-mail office@eaglehill.us, and URL (http://www.eaglehill.us/).

2010 Pre-Registration Form - Michigan Entomological Society - Fifty-sixth Annual Meeting

Kettunen Center, 14901 4-H Drive, Tustin, MI 49688-9470, Friday-Sunday, 25-27 June 2010

Pre-registration deadline is June 4, 2010

Name: _____

Guest Name(s): _____

Address: _____

City: _____ *State/Prov.* _____ *Zip* _____

Email: _____

	*Cost	X	# people	=	subtotal
Registration fee (includes Lunch Saturday).	*16.50*	*X*	____	=	_____
Plus your selection of the following:					
Dinner Friday (5:30-6:30 PM).	*16.50*	*X*	____	=	_____
Lodging Friday – Red Oak Single / Double	*78.25/53.25*	*X*	____	=	_____
– White Pine Single / Double	*67.50/42.50*	*X*	____	=	_____
– Standard Single / Double	*52.75/32.75*	*X*	____	=	_____
Breakfast Saturday (7:30-8:30 PM).	*8.50*	*X*	____	=	_____
Dinner Saturday (5:30-6:30 PM)	*16.50*	*X*	____	=	_____
Lodging Saturday – Red Oak Single / Double	*78.25/53.25*	*X*	____	=	_____
– White Pine Single / Double	*67.50/42.50*	*X*	____	=	_____
– Standard Single / Double	*52.75/32.75*	*X*	____	=	_____
Breakfast Sunday	*8.50*	*X*	____	=	_____
	TOTAL			=	_____

**U.S. dollars; per person costs. NOTE: If you wish to make your own reservations at the* Kettunen Center, please be advised there is an additional $3.00 registration fee per person plus tax. Single refers to a single person occupancy; double refers to two people sharing a room. Meal serving times are indicated above – you should be prompt. Please note that you may also purchase meals at the center.

The Kettunen Center's website - http://www.kettunencenter.org/index.html - contains much more information including types of activities and services provided. Wireless Internet is available throughout the center including in the main building, the Mawby Learning Center (Lakeview Room, Aspen Lodge and Birch Lodge) and Cedar Lodge.

Policies of the Kettunen Center include:

Guests may check into their sleeping rooms at 4:00PM on the day of their arrival. Please check with the front desk as rooms are often available before this time. Guests are to vacate their sleeping rooms by 10:00AM unless otherwise agreed upon with the administration. Furnishings, beds, and bedding are not to be moved or removed by guests from housing units. A staff member will move any furnishings that may be required. A charge will be made for unauthorized moving of furniture and bedding that has to be returned. Upon arrival all beds should have clean linen, at least two blankets and one pillow. Guests are asked not to bring food or snacks into sleeping areas. If you require a portable refrigeration unit, please arrange with the Kettunen Center in advance. Guests are not permitted to bring pets. Smoking is not permitted in any building, and there will be a $30.00 charge for cleaning and deordorizing rooms which have been smoked in. The center is not responsible for injury to guest or for loss or damages of personal property.

Roommate assignment: please complete name in "A" or check "B"

A. I prefer to room with_____ and (s)he has agreed.

B. ____ I have no roommate preference.

Note: Make checks payable to: Michigan Entomological Society.
Lodging and roommate assignment will be confirmed by return mail or emal. Since other groups may be meeting concurrently, persons requesting lodging should mail their reservations and check as soon as practical.

Return this pre-registration form by June 4 to: Ethan Bright; 701 Mt. Pleasant Ave.; Ann Arbor, MI 48103

< Retain a copy for your records >

Oral Talk, Poster & Display Pre-Registration Form

Michigan Entomological Society

Fifty-sixth Annual Meeting
Kettunen Center, 14901 4-H Drive, Tustin, MI 49688-9470
The official meeting is on Saturday, 26 June, but lodging is available on both Friday and Saturday nights

Type of Presentation: _____ ORAL (Regular) ____ ORAL (Student Competition) ____POSTER

Title: _____

Author(s): _____

Affiliation: _____

Poster: (Posters must have their own solid backing e.g. art board or poster board.)
Size: _____ wide X _____ high

If you have a Display:
Size: _____ wide X _____ high X _____ deep

Support: ____Free standing on floor ____Need table for support

Electricity needed: ____Yes ____ No

Other needs: _____

_____

Contact person:
Name: _____

Address: _____

_____

Phone: _____

Fax: _____

E-mail: _____

Return by 4 June 2010. to:
Ethan Bright,
701 Mt. Pleasant Ave.
Ann Arbor, MI 49103
Email: ethanbr@umich.edu

Karner Blue Butterfly Recovery Program Gains Momentum and Requests Volunteers for 2010

Heather Keough, Wildlife Biologist
Email: hkeough@fs.fed.us.

Efforts to prevent the extirpation of the federally endangered Karner blue butterfly (KBB) from the Huron-Manistee National Forests (Forests) have dramatically increased since the Huron-Manistee National Forest's Plan (Forest Plan) was signed in 2006. To meet the recovery goals for viable KBB populations, the Forest Plan calls for the restoration and maintenance of 20,300 acres of savannas/barrens within four designated KBB metapopulation areas and essential KBB habitat within the Manistee National Forest over the next 50 years.

Since 1992, hand cutting, prescribed burns, mechanical removal of vegetation (i.e., mowing, sheer cutting, masticating, bulldozing), scarification, seeding/planting, and road closures have been used to manage 886 acres of occupied and 902 acres of unoccupied KBB habitat within the four metapopulation management areas.

However, 1,082 out of 1,788 acres (61%) that received savanna/barrens restoration treatments were managed after 2005. Whereas management activities occurred on an average of 50 acres per year

Continued on page 14

Supporting Imperiled Butterflies

Torrey Wenger, Conservation Education Assistant
Kalamazoo Nature Center, 7000 North Westnedge Avenue, Kalamazoo, Michigan 49009.
Email: twenger@naturecenter.org

What can be done for endangered butterflies and other insects? The Institute of Library and Museum Sciences is sponsoring a series of five workshops on Imperiled Butterfly Conservation and Management (IBCM) to increase the number of people who can answer this question.

Participants in the IBCM workshops come from 22 diverse environment-based institutions – natural history museums, zoos, and botanical gardens – in 18 states. By the end of the program, each participant will have a plan to create or expand their institution's butterfly conservation activities, from educational programs through captive rearing. IBCM embraces the idea that cross-trained professionals and partnerships between organizations will improve butterfly conservation opportunities overall. The "sharepoint" used by workshop members is open to all: <www.imperiledbutterflies.net>.

Competition for spots at the workshop was fierce with over 130 inquiries. Karen Kramer Wilson of the Kalamazoo Nature Center (KNC) received one of the 25 scholarships. She is the only participant from Michigan and KNC is one of only two nature centers represented. Before and after each workshop, Ms. Wilson briefs KNC's butterfly team. Together they are developing a strategic conservation plan. While this plan is still very rough, it will likely include educational programs (such as a week of summer camp devoted to butterflies), habitat restoration (including the creation and maintenance of oak openings), and partnerships with regional butterfly conservation programs (especially those at the Detroit and Toledo Zoos).

IBCM is itself an example of successful partnerships. The following organizations are all supplying staff, space, or supplies to the three-year IBCM program: Association of Zoos and Aquariums (Silver Spring, MD); Butterfly Conservation Initiative, <www.butterflyrecovery.org>; Chicago Academy of Sciences' Peggy Notebart Nature Museum (Chicago, IL); Fairchild Tropical Botanic Garden (Miami, FL); Florida Museum of Natural History's McGuire Center for Lepidoptera and Biodiversity at the University of Florida (Gainesville, FL); Oregon Zoo (Portland, OR); Toledo Zoo (Toledo, OH); and University of Florida' Department of Entomology and Nematology (Gainesville, FL).

With the first of three years completed, the Kalamazoo Nature Center is looking forward to new partnerships, new opportunities, and a new butterfly conservation plan.

Ranger Steve Recieves Interpreter Award

Steven Mueller, of Cedar Springs, MI (better known as Ranger Steve) was awarded the 2010 Region 4 Distinguished Professional Interpreter award by The National Association of Interpretation. Ranger Steve has always been in love with nature. He got started with butterflies at age 8. "I was interested in frogs, scouting, camping, canoeing, and exploring." Mueller grew up in Saginaw, and held several different jobs related to the nature field over the years. He was a high school science teacher in Alpena, Michigan, Dry Ridge, Kentucky, and Kenosha, Wisconsin; an urban forester for Dow Chemical in Midland; a state park ranger in Traverse City; a ranger/naturalist at Bryce Canyon National Park in Utah; and a teacher at Jordan College in Cedar Springs. Many know him best as the director of Howard Christensen Nature Center for over 20 years.

Mueller is an MES member, as well as is or has been President of the Grand Rapids Audubon Club, President for the Michigan Alliance for Environmental and Outdoor Education, West Michigan Butterfly Association, and Grand Rapids Camera Club. Many Cedar Springs Post readers are familiar with Ranger Steve through his column *Nature Niche*, or through his work at the Howard Christensen Nature Center.
Either way, his love for nature shines through. And it won't dull anytime soon. "In my acceptance I encouraged others to continue the charge as long as they breathe because it is a way of life more than a profession," he explained. "Some people go to work for a profession but I have gone to work because it is a passion."
Source: http://cedarspringspost.com

Continued from page 13

between 1992 and 2005, an average of 271 acres per year was treated between 2006 and 2009, representing a five-fold increase!

The objective of these restoration treatments is to reduce tree density and the encroachment of trees and shrubs, and promote the growth of native grasses and KBB nectar plant species, especially wild lupine - the sole food source for the KBB caterpillar.

Given that persistent KBB populations require abundant nectar sources and wild lupine, seeding/planting activities are essential for restoring suitable KBB habitat. With the support of partners and volunteers, the Forests were able to increase the availability of wild lupine and other nectar sources within 8 areas occupied by KBB in 2009. Partners donated seed and volunteers provided a total of 22 volunteer days (valued at $2,400) seeding 4 acres with nectar plants and planting 2.5 acres of wild lupine plugs. Over the next two decades, the Forests plan to disperse seed and plant plugs to establish 5-15% cover of wild lupine and 5-15% cover of other important nectar plants within all areas occupied by the KBB within the Forest.

To reach the Forests' goal of restoring 20,300 acres of savannas/barrens, the Forests plan to increase the rate of restoration activities to a minimum of 400 acres of per year within the next two years.

Concurrent with the increase in restoration activities, the Forests also have increased their KBB monitoring effort since 2006. The Forests annually monitor the status of the KBB to determine how far populations are from meeting recovery goals, and to evaluate the effectiveness of different management strategies for restoring KBB habitat. Between 2006 and 2009, the number of acres the Forests monitored for the KBB increased dramatically (298 acres in 2006, 843 acres in 2007, 812 acres in 2008, 1,078 acres in 2009) due to volunteer participation in the survey effort. This represents more than a three-fold increase in acres surveyed from 2006 to 2009!

Volunteer participation in 2007, 2008, and 2009 was incredible! Individuals from numerous private and public partner organizations provided a total of 533 volunteer days (valued at $65,000). To those who supported our survey effort, thank you for being so generous with your time! With your support, the Forests not only met, but surpassed its monitoring goals.

With the help of volunteers, the Forests inventoried 821 acres; locating 34 new KBB subpopulations. In addition, the Forests estimated KBB abundance and assessed habitat conditions within 78 subpopulations covering 580 acres, and examined the influence of weather on KBB overwintering survivorship by collecting hourly temperature and weekly snow depth data within 20 selected subpopulations. The Forests also conducted habitat surveys on an additional 152 acres to evaluate the effectiveness of different mechanical treatments at restoring KBB habitat.

Those participating in the 2007, 2008, and 2009 survey efforts made an invaluable contribution to conserving KBB by helping us dramatically improve our understanding of the KBB's status within the Forests, and how to restore suitable KBB habitat.

With the data collected, the Forests were able to determine how far designated metapopulation areas within the Forests are from meeting recovery goals, develop a habitat suitability model for KBB within the Forests, identify high priority areas to target management activities, and evaluate the effectiveness of different management strategies for restoring KBB habitat. Without good information, our efforts to recover the KBB could fail.

There is still much to do if we are to prevent this endangered species from disappearing from our local landscape. In 2010, the Forests will continue to conduct management activities to restore savannas/barrens habitats and monitor the status of the KBB to evaluate the effectiveness of restoration efforts. Because of the cost and labor involved in a recovery effort of this scale, the success of the Forests' management activities depends on the continued support of volunteers, partners, USDA Forest Service personnel, and federal funding sources.

Over the last several years, individuals from numerous private and public partner organizations assisted with restoration activities and volunteered to assist with KBB surveys including: Michigan Department of Natural Resources, Michigan State University, Michigan State University Extension, Big Rapids High School, The Nature Conservancy, Ferris State University, Grand Valley State University, Michigan Entomological Society, Michigan Federated Garden Clubs, Michigan's Conservation Districts, Land Conservancy of West Michigan, Little River Band of Ottawa Indians, Central Michigan University, Wayne State University, Michigan Conservation Foundation, Pine River Audubon Society, U.S. Fish and Wildlife Service, Mason County Central High School, Pine River High School, Reed City High School, Williamson High School, Holton High School, Morley Stanwood Middle School, CASMAN Academy, and Fremont Christian School.

Recipients of a National Award. The U.S. Forest Service personnel, volunteers, and partners that have made the KBB recovery program a success were recently recognized for their achievements with the receipt of the prestigious Wings Across the Americas Award for Butterfly Conservation presented by the US Forest Service for bird, bat, and butterfly conservation.

Volunteers Needed in 2010. The Huron-Manistee National Forests' Baldwin-White Cloud Ranger District (District) is looking for volunteers to help conduct KBB surveys from early July to early August in 2010. In addition, volunteers are needed to collect native plant seed between July and September, and plant seeds and plugs between September and October.

There are opportunities for individuals of all skill levels to participate. Interested parties can volunteer during weekdays, for a few days, or a week or more. Reimbursement for mileage and housing may be available.

Paid internships also are available. Between May and August, interns will help conduct surveys for a variety of endangered, threatened, and sensitive fish and wildlife species.

Volunteer assistance is vital to meeting our recovery goals! Please choose to volunteer this year and help conserve a locally endangered species! If you or someone you know is interested in participating in the 2010 field season, please contact Dr. Heather Keough by email hkeough@fs.fed.us or phone 231-745-4631 x 3111 (office).

Observations on the Blazing Star Borer (Papaipema beeriana) in Michigan

Ted Herig
603 Franklin, St. Johns, MI 48879
Email: Herigs@aol.com

The Blazing Star Borer, *Papaipema beeriana* Bird, is a member of a wonderful genus of noctuid moths. It is found in southern Lower Michigan in wet meadows and fens around lakes and streams where it can be locally common. It has been collected in several counties in southern Lower Michigan from Allegan and Berrien Counties in the west to Saint Clair and Monroe Counties in the east. I'll call this population the "southern population." The larval host plant is *Liatris spicata*, commonly called Marsh Blazing Star.

Recently, a population of what appears to be *P. beeriana* moths was found in Otsego County, in northern Lower Michigan by Mogens Nielsen, which I'll call the "northern population." This northern population of *P. beeriana* has a much redder overall wing coloring, with the orbicular and reniform spots tending to be slightly larger than in the darker southern Michigan populations (see photos). Overall, the wingspan of northern specimens (3.2-4.1 cm) is generally larger than southern specimens (2.7-3.8 cm).

The host used by the northern population is *Liatris aspera*, commonly called Rough Blazing Star. The habitat used by this moth in Otsego County is dry, sandy pine barren-prairie. Adults in both northern and southern Lower Michigan fly from late August through late September, and generally fly between 11 pm to 5 am.

Above: male specimen from the "northern" Michigan population (Left) and female from the "southern" Michigan population (Right) where the forewings lack spots. Below: the same "northern" male specimen as above (Left) and a different female from the "southern" population (Right) where spots are present on the forewings. Both males and females can have spots.

Here are some general observations on the northern Michigan population (Herig unpublished data). Females appear to lay eggs on the host plant and possibly on leaves and nearby vegetation. I observed one female at night (1:55 am) ovipositing on *Liatris aspera* that deposited a single egg at the leaf base where it attaches to the main stem. The egg is the overwintering stage. The first instar larvae eclose from the eggs around mid-May and enter the host plant along the stem near a leaf base. The larvae tunnel downward into the root system. There are apparently seven larval instars. Larvae pupate inside the plant, but before pupating the larva first creates an exit hole at the base of the plant through which the adult will later emerge. The pupal period is about 3-4 weeks. The total time from egg hatch to adult is about 90-100 days in Lower Michigan.

The larvae of *P. beeriana* differ from other *Papaipema* larvae that I have seen by having stripes that run vertically around the body segments (like rings; see picture) rather than longitudinally.

Adults from southern Lower Michigan have two forms. The most common form has unspotted forewings which are dark mousy gray in color with a somewhat frosty appearance. The less common form (*P. beeriana lacinariae* Bird) looks like the former except it has white-spotting on its forewings at the orbicular and reniform areas. The adults from northern Lower Michigan all have spotted forewings, or at least no known unspotted forms have been seen to date! I am still working out the details of the life history for the southern and northern populations. Who knows, maybe the northern population will turn out to be a new species!

Two stories from Harry King

108 North Ct, Mason, MI 48854
Email: kingha@msu.edu

A Most Amazing Experience

I was in the United States Navy from 1967 - 1970. We were deployed to the Mediterranean Sea on a six month cruise at the time ending with a stop at Portsmouth, England. I had years earlier purchased butterflies from a place in Brighton, England called WorldWide Butterfly Limited. They had a shop right downtown at that time, so my first stop was going to be Brighton. London could wait for another day.

When I found the little shop, I had hoped to see specimens of the then little known and rare Birdwing Butterflies that they had for sale from time to time. One of the hardest to obtain at the time and going for well over 90 British pounds just for a male was *Ornithoptera croesus lydius*. It had been on their listings not that long before and so I had hoped to see one. They had lots of other species to look at but no Birdwings when I was there.

The manager of the shop being a very nice person and apparently liking the US Navy kindly told me although he did not have what I was looking for in stock, if I was on my way to London and had a minute, all was not lost. Making a phone call I heard him ask if he had the British Museum of Natural History and could he speak to a Dr. Vane-Wright. He told Dr. Vane-Wright that he had an American Sailor in his shop and could he find the time to show him some Birdwing Butterflies when he got to London.

Hanging up the phone he said if I would go to the British Museum of Natural History and to the floor with the big butterfly exhibit there would be a door to the left of the display, go there and ask for Dr. Vane-Wright, he would be expecting me. I found Dr. Vane-Wright to be a caring person and eager to show off the collections. I was completely flabbergasted. After showing me where the *Ornithoptera* were housed in that vast collection, he left me to look on my own while he worked at one of the nearby tables. I would go to him only when I needed help finding some particular species I was hoping to see.

So for many hours that afternoon, I pulled out insect drawer after insect drawer, looking at Birdwing after Birdwing. You talk about awesome. Every time I pulled out a drawer every specimen data label would say the same thing on it, Rothschild, some would say holotype, some would say allotype and others said paratype but one thing they all had in common, they were all Rothschild originals. Specimens sent back by those like A.S. Meek and others from their expeditions which Rothschild and his colleagues had named types and used for the original descriptions of the different *Ornithoptera* species being discovered at that time; dates also agreed with much of what I had read of the discoveries.

Every time I think back about that afternoon I get excited all over again at having seen firsthand the specimens that go with the dates and locations and discoveries I had read about over and over again.

I sent correspondence to Dr. Vane-Wright several time after that and he always graciously took the time to write me back. Awesome, awesome that's all I can say. I'll never forget it.

It Goes Deeper Than That

The old two-track was hardly visible along the trail that led deep into the forest. My anticipation was high as I moved along the path. Coming to a favorite spot like this each spring was much like an annual pilgrimage to some holy place. In fact, the further down the trail I sped, the less I could hear the noises of the world I was leaving behind. The tall buildings and streets of the big cities were already far behind and in the distance the moment I had crossed the Mackinac Bridge days ago now. If there was such a thing as time travel this path was it and I knew it. Not ahead to the future but going back in time like when the world was new.

The forest had closed in now and I had become oblivious to the modernized civilization I was a part of. In less than a mile walk, up ahead, I could see an opening in the forest of pine and deciduous trees. Here lies a depression that time had clearly forgotten. Sometime in the distant past, nature had reached down, scooped out a piece of the forest, and replaced it with habitat normally associated with the far north, where only the Caribou, the Polar Bear and the Mosquito reign supreme.

These sphagnum heath acid bogs have always reminded me of pictures I had seen of a prehistoric time. The large ones, even with all their great array of vegetation crammed so tightly together, with their minimal amount of trees, have a vastness about them as far as the eye can see. I come here and the quietness is deafening. The bogs have a tranquility about them like nowhere else.

The day is warm and sunny with just a slight breeze now and again. I step off the trail and into this other time and space and all that I have been dealing with, the projects at work, the "to do list" for the property back home, and all that creates tension in my life quickly disappears. I am in a world where tension does not exist, nor does it matter, or at least for a little while. The stillness and tranquility produce a calming effect that is like a fresh breath to my soul. Yes, it is the little critters that flit over the hummocks that brought me here in the first place, but it is the soothing and tension-relieving effect that brings me back time and again. It is now May but by late June the small pieces of orange, black or brown that fly through the air here will be gone, but their home like a sought-after medicine remains. I will return in July, August and even September before the snow flies to dip my feet into one of nature's own remedies for whatever today's bustling world extracts from you.

You have been told since days gone by; find yourself that secret place within where you can mentally shut out the rest of the world and come away feeling renewed. I have found a physical one as well. After days of visiting my secret place, I leave behind the tamarack, the bog laurel, the rosemary, the *Boloria*, the *Erebia*, the sandhill crane and this habitat foreign to my day-to-day living, refreshed physically and mentally in a way I find nowhere else in this world.

Owen A. Perkins, 1930-2009

Owen Perkins, a Lifetime Honorary MES Member, passed away on 30 November 2009 at the age of 79. Owen was born 14 November 1930 in Royal Oak, MI, and lived there nearly his entire life. He attended Albion College, graduating in 1952. He then served for two years in the Army during the Korean War. On his return, Owen began a 37-year career teaching science in the Royal Oak Public School System. He also earned a Masters in Science Education from MSU in 1968. Owen was active in coaching sports and in the Royal Oak Historical Society, authoring two books on Royal Oak history. Owen is survived by his wife (Grace Perkins), 5 children, and 17 grandchildren. Owen was an active lepidopterist, and maintained the website <LepAlert.org>. Included here are a few rememberances of outings with Owen from various MES members.
Robert A. Haack, Newsletter Editor

Owen Perkins – MES Member, Mentor, and Good Friend

Duke Elsner (elsner@msu.edu)

I cannot remember what year or where I first met Owen, but I'm pretty sure it was not until the 1990s. I wish we could have met so much earlier in my life, as every time I did get to speak or collect with him, I learned something important about Michigan butterflies.

Owen was a very active member of MES, attending several Annual Meetings and Breaking Diapause events, and participating in numerous field trips throughout the state. He was an active collector, providing many new county distribution records to the Michigan Lepidoptera Survey and Mo Nielsen's book on Michigan butterflies. He took the initiative to create and maintain the Lepidoptera Alert web site for the benefit of all who had an interest in Michigan Lepidoptera.

Owen had a wry sense of humor, which was pretty obvious from his "Dead & Spread" cap and "I brake for elfins" bumper sticker. I loved to hear him tell a good collecting story and laugh out loud about the misfortunes of his collecting partners (who was often Mo!).

My favorite outing with Owen came in May 2002. He drove up to meet me in Kalkaska County, MI, so I could show him a few of the sites where I had taken a number of interesting county records and a few aberrant fritillaries. He had a great offering to trade for such information—the Kalkaska location where a young relative of his took a county record Early Hairstreak! We went right to that spot to examine the conditions, hoping to see this elusive creature. After quite a while there, grumbling a bit about the cool and windy weather, we headed off to some of the sites I had frequented over the years.

Within five minutes of arriving at a site in Blue Lake Township, Owen had netted a Chryxus Arctic (*Oeneis chryxus*) for a new county record. Since I had been at or near this site about a dozen times during this same period from 1991 to 2000 and never came across this species, I was fuming (quietly, with dignity) that I had led Owen straight to this record. He smiled even wider than normal for the rest of the day, having scooped me in one of my own territories. To his credit, Owen never really rubbed this in as much as he could have.

Dinner in Paradise

Mo Nielsen (Moths4926@aol.com)

I have many fond memories of collecting and photographing butterflies with Owen. Owen was not a "MOTH-ER," he liked butterflies and enjoyed the warmth of sunhine!

The one story I'd like to recall took place in Paradise, MI, on the eastern shore of Lake Superior in June several years ago. We had spent several hours in a large bog west of Paradise, chasing several flighty Jutta Arctics (*Oeneis jutta ascerta*) and Bog Fritillaries (*Boloria eunomia dawsoni*) butterflies. Needless to say it was a hot and exhausting time on a beautiful sunny day in a typical Michigan sphagnum/heath bog that we both enjoyed visiting.

Later in the afternoon, we stopped at our favorite restaurant in Paradise for dinner. We each enjoyed their specialty: broiled whitefish, baked potato with hot butter sauce, and a salad. This was followed with a slice of hot blueberry pie topped with a scoop of vanilla ice cream, and a hot beverage.

As we left the restaurant, we both stated that we were "Indeed, in Paradise!"

Hell Frozen Over

Kyle E. Johnson
(kejohnson4@wisc.edu)

I've had the privilege of knowing Owen since 2004, but my first "field experience" with him wasn't until 2008, and that was JANUARY of 2008. Owen, Dwayne Badgero, and myself were returning from the much beloved Ohio Lepidopterist's Society annual meeting, which seems to be a common meeting ground for folks from states like Michigan, Wisconsin, Indiana, Kentucky, Georgia, and Pennsylvania. This was an icy January 20th with air temperatures below 20°F, colder than even Prudhoe Bay, AK, which reported a balmy 30-35°F that day, and surely the locals were at the beach.

In Wyandot County, OH, we stopped at a rest area near Tymochtee Creek. All three of us took many cocoons of the familiar bagworm moth *Thyridopteryx ephemeraeformis* on Ohio Buckeye, much to the amusement and profound befuddlement of other nearby travelers. Back on the road, conversation naturally returned to the Grizzled Skipper *Pyrgus centaureae wyandot*, at least while we remained in the Wyandot county.

As we crossed back into Michigan, we opted for a brief detour and ended up in the small but infamous town of Hell, MI, which was always a hot topic with Owen. Today Hell was solidly frozen over. It was now after 5 pm with temperatures around 10-15°F with a bone-chilling breeze. Owen photographed Dwayne and I to document the efforts of the "Michigan Lepidoptera Survey" team at this site (see photo). But now to collect a specimen!

Collecting moths in January might at first seem ridiculous, but of course the vast, vast majority live here year round... so it's just a matter of knowing where to look. Some micro-moths regularly hibernate as adults under bark of standing dead trees. Finding them is often hit or miss though...and Hell wasn't about to give up specimens easily. The trees weren't the greatest, but far worse was the bitter cold, which was steadily draining life from my nearly frostbitten hands. Dwayne wasn't so bad off but nonetheless freezing. Owen on the other hand was "holding down the fort" in a cozy warm automobile, presumably grinning all the while. At long last, Dwayne ripped off a piece of bark to uncover a tiny white gracillariid moth, a member of the "white species" group of *Phyllocnistis*. Yes, a white moth five millimeters from wing tip to wing tip amidst this glorious white winter wonderland. With mission accomplished, Dwayne dashed back to the warmth and safety of Owen's car while I recorded specimen data, with my fingers and toes on the verge of cold paralysis. Why do GPS units have to be so slow at critical moments? I wonder what any onlookers might have made of this whole fiasco.

Fig. Owen Perkin's photo of Kyle Johnson (L) and Dwayne Badgero (R) holding the MI Lepidoptera Survey sign in Hell, Michigan (20 January 2008)

Moments before being truly frostbitten, we left for home. In the hilly landscape just south of Hell, we noticed excellent stands of red cedar, the caterpillar food plant for the Olive Hairstreak (*Callophrys gryneus*), a species not yet vouchered in Michigan but possibly here. This critter certainly got Owen's attention. What better first state record locality than SOUTH of Hell? We had a good chuckle on that one, not to mention many other possibilities with this town's name!

Epilogue: What better way to document a story than with a specimen? The following is the ACTUAL information printed on the data labels (4 of them, plus a determination and barcode). The specimen is in the University of Wisconsin-Madison Insect Research Collection. Now imagine someone examining THIS specimen down the road!

MICHIGAN: Livingston Co.; Hell; 42°26.196'N 83°58.969'W (WGS84); 900'; 20 Jan. 2008; D. R. Badgero/K. E. Johnson; HELL FROZEN OVER; snow covered deciduous woodland, below pine/spruce plantings; under loose bark of standing dead oak; 5:55pm ~10-15°F cloudy w/ icy breeze, absolutely COLD AS HELL, colder than Prudhoe Bay, ALASKA (posted temp. ~30-35°F); Dwayne ripped off bark to find *Phyllocnistis*, returned to warm car; Kyle remained to record data, fingers & toes nearing frostbite, burning/tingling sensation upon thawing in vehicle of Owen A. Perkins; post return from Ohio Lep. Soc. meeting; MI LEP SURVEY Barcode #25813; Phyllocnistis sp. (white species group) det. Kyle E. Johnson 2008.

Collecting With Owen

Dwayne Badgero
(noctuids75@aol.com)

I first met Owen Perkins or "Owen A. Perkins" as he would always specify, through his LepAlert website in 2004. We first met at Breaking Diapause in 2005, and we went on a couple field trips together that year. Then in 2006, I helped Owen survey for Dukes Skipper in the Milan area of southeastern Michigan. During 2007-2009, we spent many days driving all over Michigan to chase butterflies and moths. We would always stop at McDonald's and Owen would always get a chocolate shake and put two straws in it. I asked if he had done that since he was a kid and Owen just smiled a great big grin. I took that for a "yes."

When we would travel to Michigan's Upper Peninsula (UP), we would stop at the last exit before the 5-mile-long Mackinac Bridge so that I could drive across it. Owen always had a box of "Good N Plenty" candy, and I always had a bag of beef jerky. I learned a lot about Michigan History from Owen, and we spent many hours exchanging stories about ourselves and, of course, Lepidoptera.

We went to the UP 11 times in 2009, including 5 times to Houghton County. We were looking for *Polygonia gracilis*. We caught every other *Polygonia* species except *gracilis*, and we had a great time doing it. Owen got two "lifer" butterflies last year, a Greenish Blue (*Plebejus saepiolus amica*), and a Satyr Anglewing (*Polygomia satyrus*). We also worked together to rediscover the Ottoe Skipper in the Allegan State Game Area. For four seasons, we looked for the Grizzled Skipper (*Pyrgus centaureae wyandot*). It always seemed the skippers were one step ahead of us. I think my best memory of Owen was on the last trip we took together. I had put out two UV traps the night before, and we retrieved them in the morning. While Owen napped, I was busy sorting moths on the table in the motel room. I had a lot of nice specimens, and then I came upon what turned out to be *Papaipema aweme*. We both went down to the computer in the lobby to double check the ID on the Moth Photographer's Group website. Needless to say it was a very happy ending to a very long but productive season.

I knew Owen for just a short flash of his life and during that time he treated me like his own grandson. After his wife Grace and his doctors said he shouldn't go to the field alone he invited me to go with him on a few trips. We worked so well together as a team it was just a normal thing for us to be together. I've already been up to the UP once this season, and it just didn't seem the same.

Owen, I will miss you buddy.

A Few Moments Shared With Owen

Steve Katz and Tyler Katz
(tyclothing@hotmail.com)

It was 3 years ago when I first met Owen. Dwayne Badgero, Stephen Vail, and I were invited on a trip to collect in Greenville, MI. It was starting to rain and we made what I would learn was the traditional stop at the Golden Arches. The breakfast and a double barrel shake, Dwayne and I called it. It was still gloomy and rainy as we headed to our first stop. As the day progressed, the sun came out, and soon the collecting started. I learned a lot about collecting that day from Owen, and for that I am grateful

There was another time Dwayne and I were out collecting with my 4 year old son Tyler when Owen met up with us. Tyler was extremely happy to see Owen, and soon Owen was telling of times when he had collected at these same spots. We collected for 4 hours and at one point my son fell asleep. He later woke up when Owen started to speak and immediately wanted his net and wanted down. Tyler tagged along as Owen's shadow. As happy as Owen made Tyler, you could tell from the look in Owen's eyes that Owen was as happy to show Tyler the ropes as Tyler was to listen.

Owen was always willing to help anyone. He always made sure I was invited to get all my first time butterfly catches. I will greatly miss him. I didn't get to know Owen as well as some did, but I knew enough to recognize a great man who willingly shared his knowledge with anyone who would listen. Thank you Owen you will be greatly missed.

What I Owe to Owen

Martin Andree
(mjandree@koeze.com)

I've collected with Owen all over the state and together we shared many good times and memories in the field.

Owen was always the gentleman, always gracious and for reasons I've never understood, Owen was impervious to dirt. While we traversed the bogs, swamps, stream beds, tar pits and mud pie factories of our fabulous state, I unfailingly emerged looking like I belonged to the tribe of New Guinea Mud Men -- my clothing in tatters, black water running out of my boots, a ripped net, and peppered with ticks, but not Owen.

Owen always looked like he just stepped out of a Ralph Lauren photo shoot. The intrepid Owen, traipsing right along next to me, right in the thick of it, but nary breaking a sweat. He always wore a light khakis and even a lighter khaki vest, perfect for showing the slightest insult of grime, but not while Owen wore it, he repelled dirt. He didn't plan it that way, and although I never inquired, I'm pretty sure he was one of those clean kids growing up. He was always impeccable.

While my beat up Dodge truck looked like I had just completed the Baraga County Mud Run, Owen's white Buick remained as clean and pure as the new driven snow of the UP. It shined like a beacon on the logging roads of Chippewa County. If we look, I'm certain that it shows up on a few Google Earth shots of western Delta County.

His personal habits of cleanliness aligned perfectly with his nature and spirit. He was honest to a fault and to a grubby scallywag like me, this was too much to resist.

Owen was famous for setting a line of bait traps that went on for miles. Meticulously marking each trap's position on his GPS, and then disappearing in his spotless Buick over the next hill. One year in particular saw an explosion of Yellow Sulfurs and Monarchs, neither of these species are known to be attracted to bait traps. This was too good to pass up. My dingy Dodge was just one hill behind the shinning Buick. As soon as Owen would set his trap and disappear, I'd net a few Sulfurs and Monarchs and released them unharmed into Owen's trap and so it went on for miles.

The next afternoon, over Owen's favorite café snack, banana crème pie and a cup of hot chocolate, he excitedly told us of his new "find." His traps were full of butterflies never taken in bait traps before! He had carefully recorded the details, and then set them free. Owen was flummoxed by the butterflies, but was puzzled even more by the fact that the last trap contained a wrapper from a Payday bar and an empty Dr. Pepper can. With as much innocent nonchalance as I could muster, I made the observation, "Although Payday bars and Dr. Pepper's have been taken at light traps and can be freely collected in the wild, I think it would be new to science to report that they have been collected in bait traps." Then I finished off the last of the Payday I was eating and washed it down with the last gulp of Dr. Pepper.

A shadow came over Owen's face, followed by his classic smile. He knew he had been had and always the good natured gentleman, he laughed as hard as the rest of us. We all owe Owen for his many examples of classic gentlemanly virtue and for the many fine memories a field.

MICHIGAN ENTOMOLOGICAL SOCIETY

NONPROFIT ORG.
U. S. POSTAGE PAID
East Lansing, MI
PERMIT NO. 14

Department of Entomology
Michigan State University
East Lansing, Michigan 48824

West Michigan Butterfly Association Invites MES Members to Field Trips and Butterfly Counts

Ranger Steve Mueller
Ody Brook Enterpise, 13010 Northland Dr., Cedar Springs, MI 49319. Email: odybrook@chartermi.net

2010 General Field Trips

May 15, 2010 (Sat) 1:00 PM – 4:00 PM. Allegan State Game Area search for Elfins, Silvery Blues, Dusky Wings and others. Call 616-772-5046 or e-mail dunlapmd@juno.com with questions.

June 19, 2010 (Sat) 9:00 AM – 4:00 PM. Chad Hughson's Hidden Savanna Nursery and some natural areas in the Kalamazoo area. We will leave Grand Rapids area about 9 a.m. and return about 4 PM. Butterflies and Bird of prairies.

September 18, 2010 (Sat.) 11 AM - 3 PM. Monarch Tagging and release from John Ball Zoo. Hourly releases and educational programs on the hour at 11, 12, 1, 2, and 3.

2010 Butterfly Count Field Trips

July 2, 2010 (Fri.) 9:30 AM. Shiawassee National Wildlife Refuge – Saginaw Co.

July 3, 2010 (Sun) 9:00 AM. Allegan Butterfly Count - Allegan Co.

July 5, 2010 (Mon) 9:00 AM. Rogue River Butterfly Count – Kent, Newaygo Counties.

July 14, 2010 (Wed) 9:00 AM. Newaygo County Butterfly Count.

July 16, 2010 (Fri) 9:00 AM. Grand River Butterfly Count - Ottawa County.

July 17, 2010 (Sat) 9:00 AM. Greater Muskegon Butterfly Count.

July 27, 2010 (Tues) 8:30 AM. Bryce Canyon National Park Utah Butterfly Count.

For details visit <http://www.glsga.org/wmba.htm> or call Ranger Steve at 616-696-1753.