

THE FIREFLY

**Proceedings of the 2012 (Thirty-Ninth)
Annual Meeting of the
Tennessee Entomological Society**



October 11-12, 2012

**TWRA CONFERENCE ROOM
ELLINGTON AGRICULTURAL CENTER
TENNESSEE DEPARTMENT OF AGRICULTURE
NASHVILLE, TENNESSEE**

TABLE OF CONTENTS

	<u>Pages</u>
Richard E. Caron Outstanding Entomologist Award Nomination Form.....	i
Proceedings of the 39th Annual Meeting	1
Minutes of the 39th Annual Meeting	10
Treasurer's Report	18
Attendance Roster of the 2012 Annual Meeting.....	19
Board of Directors and Committees	20
2012 Prediction and Evaluation Reports.....	21
Historical Notes	42
Constitution of the Tennessee Entomological Society	49
Operating Procedures of the Tennessee Entomological Society	54
Membership List (Not provided due to privacy issues)	64
Membership Application	65

RICHARD E. CARON

OUTSTANDING ENTOMOLOGIST AWARD

NOMINATION FORM

The Awards Committee of the Tennessee Entomological Society invites nominations from any TES member for the Richard E. Caron Outstanding Entomologist Award. The award is awarded periodically to TES members who have distinguished themselves by making outstanding contributions to entomology in Tennessee.

Name of Nominee _____

Brief Description of His/Her Qualifications for the Award

Name of Nominator _____

Phone Number of Nominee: Area Code () _____

Please submit your nomination by **August 1, 2012** to:

Dr. Steve Hamilton
Department of Biology
Director, Center of Excellence for Field Biology
P.O. Box 4718
Austin Peay State University
Clarksville, TN 37044
(931) 221-7783; HamiltonSW@apsu.edu

**PROCEEDINGS
OF THE
THIRTY-NINTH
ANNUAL MEETING**

**OCTOBER 11-12,
2012**

TWRA Region 2 Conference Room
Ellington Agricultural Center
Nashville, Tennessee

KEYNOTE SPEAKER

Dr. Wayne N. Dixon

**Assistant Director
Division of Plant Industry
Florida Department of Agriculture
and Consumer Services
Gainesville, FL**

Dr. Wayne Dixon received his B.S. in Biology from the University of Maine, his M.S. in Entomology from Texas A&M University, and his Ph.D. in Forestry from the University of Maine. He is presently employed as Assistant Director of the Division of Plant Industry in the Florida Department of Agriculture and Consumer Services. Before his current employment, he served as the Chief of the Bureau of Entomology, Nematology and Plant Pathology within the Florida Department of Agriculture and Consumer Services, and as the State Forest Entomologist with the Florida Division of Forestry. During his career, he has provided approximately 3,000 presentations to more than 14,000 people. His experiences cover a wide range of topics, and he shared those experiences, as well as the duties of his current role as Assistant Director of the Division of Plant Industry, Florida Department of Agriculture and Consumer Services.

Response of Soil Arthropods to Controlled Burning at Haynes Bottom Wildlife Management Area, Montgomery County, Tennessee

*Brittney M. Jones**, Willodean D.S. Burton, and Don L. Sudbrink

Austin Peay State University
Clarksville, TN

Controlled burning is an essential ecological practice that has been utilized by native people for hundreds of years. Many studies have looked at controlled burning affecting mammals and birds such as deer and quail, but very few have observed soil arthropods' response to this type of fire management. This study evaluated soil arthropod response to controlled burning at the 1,000 acre Haynes Bottom Wildlife Management Area (HBWMA). Several leaf litter samples have been collected from burned and unburned sites before and after burning. Arthropods were extracted from litter samples using Tullgren-Berlese funnels, and have been identified to appropriate taxa level for biodiversity analysis. A majority of the collection consisted of springtails (Order: Collembola), and mites (Subclass: Acari). Shannon-Weiner analysis demonstrates a slight decline in arthropod diversity after the controlled burn. Further analysis will be conducted for a possible significant difference in arthropod diversity against controlled burns.

An Overview of Biological Control of Hemlock Woolly Adelgid in Tennessee

*Abdul Hakeem*¹, Jerome Grant¹, Greg Wiggins¹, Paris Lambdin¹ and Frank Hale²

¹Department of Entomology and Plant Pathology, The University of Tennessee,
Knoxville, TN

²Department of Entomology and Plant Pathology, Soil, Plant and Pest Center,
Ellington Agricultural Center, Nashville, TN

An invasive insect species - hemlock woolly adelgid (HWA), *Adelges tsugae* – introduced from Japan has killed hundreds of thousands of eastern hemlock, *Adelges tsugae* Annand, in the eastern United States. Hemlock mortality is evident throughout the Great Smoky Mountains National Park, where an intensive integrated pest management program was initiated in 2002. This program combined chemical insecticides and biological control, including the release of several species of introduced predatory beetles. These biological control agents included the lady beetle *Sasajiscymnus tsugae* (St) Sasaji and McClure (St) and the derodontid beetle *Laricobius nigrinus* (Ln) (Fender). Since 2002, these beetles have been released at more than 200 sites in the Great Smoky Mountains National Park.

Both St and Ln are now established at numerous locations and have been recovered from about 20% of the release sites in the Park. At several locations, data suggest that tree health is improving at sites where biological control agents were released and have been recovered. Stepwise logistic regression indicated that an inverse association between year of release and establishment of St existed. Spearman correlation also indicated a significant inverse relationship between year of release and St establishment (coefficient = -0.447; $P = 0.01$), which indicates that St populations require more time to reach detectable levels. In addition, a significant positive correlation ($P < 0.05$) was found between St establishment and temperature at the time of release (minimum and maximum temperature one-day after release, and average minimum and maximum temperature seven-days after release).

This study suggests that low temperatures near time of release may negatively affect St establishment. The recoveries of St and Ln at release sites, as well as their documented movement into new areas away from the initial release site, combined with the increased evidence of improved tree health suggest positive results from the Park's integrated management plan against hemlock woolly adelgid.

Identifying Six Common and Recurring Insect and Mite Pests of Woody Ornamentals by Recognizing Distinct Injury Symptoms

David Cook

University of Tennessee
Nashville, TN

Certain woody plants are commonly if not overused in both consumer and commercial landscapes. If overplanted, woody ornamentals offer a constant food source for certain insect and mite pests. Management of these pests becomes an annual process of scouting, recognizing feeding injury symptoms, and providing control measures. Pest pressure may occur annually or randomly. Knowing the host plant and the type of damage is the first step in determining the cause of the problem. Control measures, whether chemical or cultural, will only be effective once the pest has been accurately identified.

Save the Nuts: Black Walnut Under Attack

*Alicia Bray*¹, Jason Oliver¹, Bill Klingeman², Steven Seybold³,
Nadeer Youssef¹, Jennifer Juzwik⁴, Sharon Reed⁵

¹ Tennessee State Univ., College Agric., Human & Natural Sci.,
Otis L. Floyd Nursery Res. Ctr., McMinnville, TN

² University of Tennessee, Dept. of Plant Sciences, Knoxville, TN

³ USDA-Forest Service-Pacific Southwest Research Station, Davis, CA

⁴ USDA-Forest Service-Northern Research Station, St. Paul, MN

⁵ University of Missouri, Plant Sciences Division, Columbia, MO

Introduced species are a continual threat to natural resources, including urban and forest ecosystems. Black walnut (*Juglans nigra*) is now threatened in its native range by an insect/disease complex recently discovered in the eastern U. S. involving walnut twig beetle (WTB), *Pityophthorus juglandis*, and a fungal pathogen *Geosmithia morbida* (causative agent of thousand cankers disease). The native range of WTB is the southwestern U.S. and northern Mexico, where it historically is associated with Arizona walnut (*Juglans major*). The current introduced areas of infestation are eastern Tennessee, Pennsylvania and Virginia. Impact of this complex in the black walnut native range could have devastating impacts to home owners, urban parks, and the timber and nut industry. For example, the economic impact of this insect/disease complex is projected to be \$850 million within 20 years in Missouri alone if it is not detected and controlled early. Due to this immediate threat, it is imperative to develop effective survey and trapping techniques for WTB for early detection and eradication to ensure the survival of black walnut. To this end, we evaluated several baits, trap types, and trap heights for effectiveness at attracting and capturing WTB. We have only partially processed the summer trap collections from 2011 and 2012, but based on these sub-samples, large numbers of WTB were captured on some trap treatments. We have observed increased densities of WTB entry holes on ethanol injected or girdled branches. To date, more total WTB emerged from girdled or ethanol injected branches than non-treated branches. Processing the remaining collection dates will improve our analysis of trap types, trap heights, and baits on WTB preferences.

Acknowledgements:

We thank Joshua Basham, Debbie Eskandarnia, Joseph Lampley, Lacey Zarifian (Tennessee State University) for their help in the field (set-up and monitoring) and Phil Flanagan (University of Tennessee) (monitoring and beetle rearing). The girdled project was funded in-part by a USDA Forest Service cooperative agreement (11-CR-11242310-061).

Forest Health Issues

*Steve Powell*¹, Heather Slayton², Denise Haffner³, and John Rochelle⁴

¹Tennessee Department of Agriculture, Regulatory Services, Plant Certification, Nashville, TN

²Tennessee Department of Agriculture, Division of Forestry, Nashville, TN

³USDA APHIS, Knoxville, TN

⁴Tennessee Department of Agriculture, Regulatory Services, Plant Certification,
Johnson City, TN

Forest health issues in Tennessee include both native (Southern Pine Beetle) and non-native pests (Gypsy Moth, Hemlock Woolly Adelgid, Emerald Ash Borer) and disease organisms (Walnut Twig Beetle/Thousand Cankers Disease). Southern Pine Beetle is currently not a problem in Tennessee, but is monitored using traps and aerial surveys by Tennessee Division of Forestry. Periodic outbreaks of southern pine beetle do occur in Tennessee and can be severe as was the case in the late 1990's/early 2000's. Gypsy Moth populations are at low levels in Tennessee with the successful aerial spray treatments in two areas of Bledsoe County and one in Roane County during the spring of 2011. Nationally, Gypsy Moth is at low levels due to the Gypsy Moth fungus, *Entomophaga maimaiga*. In 2012, Hemlock Woolly Adelgid was found for the first time in the following counties: Fentress, Marion, Putnam, and Sequatchie (now found in 35 counties in Tennessee). Also in 2012, Emerald Ash Borer was found for the first time in the following 12 counties: Roane, Monroe, Cocke, Greene, Hawkins, Hamblen, Jefferson, Union, Campbell, Anderson, and Smith. The Walnut Twig Beetle was found for the first time in Rhea County in 2012.

Firewood can be a good habitat for insects and pathogens and can be transported long distances. Exotic insects/pathogens may damage or kill trees if introduced into a new environment. Firewood that has been recently cut, moist and fresh with tight bark, and in large pieces has a much greater chance of moving exotic insects. Pathogens such as Butternut Canker, Beech Bark Disease, Oak Wilt, and Dutch Elm Disease, may also be moved on firewood. Native pests generally attack dead, dying or stressed trees.

Using Tree Rings or Buckets to Chemigate Field-Grown Nursery Stock for Japanese Beetle and Imported Fire Ant Quarantine Certification

*Jason Oliver*¹, Christopher Ranger², Anne-Marie Callcott³, Jim Moyseenko², Nadeer Youssef¹, Alicia Bray¹, Xikui Wei³, and David Oi⁴

¹ Tennessee State Univ., College of Agriculture, Human & Nat. Sciences, Otis L. Floyd Nursery Research Center, McMinnville, TN

² USDA-ARS, Horticultural Insects Research Laboratory, Wooster, OH

³ USDA-APHIS, Soil Inhabiting Pests Section, Gulfport, MS

⁴ USDA-ARS Center for Medical, Agricultural, and Veterinary Entomology, Gainesville, FL

Japanese beetle (JB) and imported fire ants (IFA) are quarantine pests of field-grown nursery plants. The Japanese Beetle Harmonization Plan and Federal Imported Fire Ant Quarantine require treatments to ensure pest free plants. For JB, growers must apply pre-harvest imidacloprid or thiamethoxam bands between May-July or post-harvest chlorpyrifos or bifenthrin root ball dips. For IFA, treatments include a pre-harvest granular chlorpyrifos broadcast, post-harvest chlorpyrifos dip, or twice daily for 3-days chlorpyrifos drench. Most approved treatments are impractical, expensive, or hazardous. The pre-harvest JB treatment requires advanced planning of fall-spring sales, and if additional sales occur, growers have only the dip treatment. We estimate current pre- and post-harvest options to cost \$0.08-\$0.35 and \$0.51-\$3.34/plant, respectively.

Two chemigation methods were evaluated against JB and IFA. Buckets or Tree Rings are sometimes used to prepare trees for harvest, allowing the possible addition of chemicals in existing production. Tree Rings or buckets were used to apply carbaryl (1 lb AI/5 or 10 gal), trichlorfon (1 lb), bifenthrin (0.2 lb), or biopesticide Armorex (125 ml product/5 gal) to JB infested trees. For IFA, buckets were used to apply bifenthrin (0.0125, 0.025, or 0.05 lb AI/15 gal/tree), followed by mechanical 24-inch root ball harvesting, burlapping/basketing, and post root ball/burlap drench (0.05 lb AI/gal/plant). Plants for IFA tests were sampled 1, 2, 3, 4, and 6 months post-treatment, and soil and burlap bioassayed against red IFA alates.

In two tests, bifenthrin provided 98-100% JB control, but other treatments were inconsistent; while all rates and times provided 100% IFA control, except the 6 month sample in one test, which had 87% and 35% control at 0.0125 and 0.025 rates, respectively. We are presently testing new chemicals and combinations to find lower rates and costs. Chemigation methods provide lower worker exposure, effective pest control, and ability to treat only sold plants, which eliminates unnecessary treatments.

Bermudagrass Stem Borer: A New Pest in Tennessee

Frank A. Hale and *Bruce Kauffman*

Department of Entomology and Plant Pathology
Ellington Agricultural Center
Nashville, TN

The bermudagrass stem borer (also called bermudagrass stem maggot), *Atherigona reversura*, is a new invasive pest of bermudagrass. It was first found in South Georgia in 2010 and damage was more widespread in 2011 (Hancock 2012). In 2012, it was found damaging bermudagrass pastures in Wilson County Tennessee. The larval feeding in the node stops new growth and causes the die-back of the top 1 to 3 leaves (Hancock 2012).

In Georgia, when this feeding pattern occurs early in the growth cycle of the bermudagrass due to reduced soil moisture or poor soil fertility, grass yield may be significantly reduced. If the feeding activity occurs near harvest time, proceed with the normal cutting. This pest might precipitate early cutting of bermudagrass hay if damage occurs earlier in the growth cycle of the bermudagrass. Impacts on regularly mowed turfgrass are not expected from this pest since mowing will remove the larvae before populations can build. More thick-stemmed varieties of bermudagrass may be less affected than fine-textured varieties (Hancock 2012).

References:

Hancock, Dennis, 2012. Bermudagrass stem Maggot. Georgia Cattleman (July).http://www.caes.uga.edu/commodities/fieldcrops/forages/ga_cat_arc/2012/gc1207.pdf

Pesticide Certification in Tennessee

Phil Hurst

Tennessee Department of Agriculture
Nashville, TN

Pesticide certification in Tennessee is necessary to provide proper education and training to those who apply and use pesticides in the state. As a Pesticide Inspector, I am responsible for enforcing the rules and regulations governing pest control operators in Tennessee (TIFRA, FIFRA, and TAPA). My primary responsibility is for Davidson County (Nashville), with approximately 120 chartered pest control operators. I conduct certified applicator inspections, focusing on record keeping, pesticide storage, use of safety equipment, and compliance with regulatory requirements, as well as investigate cases of pesticide misuse, misapplication, and misbranding and assist in pesticide applicator re-certification meetings, as both a presenter and facilitator.

SPECIAL PRESENTATION

A LEPIDOPTERA COLLECTION

A collection of Lepidoptera was exhibited during the TES Annual Meeting. This collection, which represented a culmination of John McWilliams and Timothy Genter, is comprised of 120 cases of both butterflies and moths. The oldest specimen dates back to 1896 and is still in good condition.

Timothy Genter

Biology Teacher
Independence High School
Franklin, Tennessee

Fellow Entomologist,

The Lepidoptera collection is a culmination of John McWilliams and Timothy Genter and is comprised of 120 cases of both butterflies and moths. The oldest specimen goes back to 1896 and is still in good condition. There are 10,300 specimens in the whole collection and is currently growing. Some specimens were raised from eggs while 98 percent were caught either at lights or on the wing. Neither John or myself have a degree in entomology, but both have a passion for collecting. John's family (Jay, Amy and Laurie) has bestowed his collection to me when he passed away, so I may continue to use it for educational purposes and preserve his collection intact. Some of the specimens have been inverted to display the ventral side showing the unique patterns from underneath. All of the samples have been labeled with a date and the County/State collected.

Enjoy the collection! I hope to display the rest next year.

Timothy Genter
Biology Teacher at Independence H.S.
timothyg@wcs.edu

TENNESSEE ENTOMOLOGICAL SOCIETY
Minutes of the TES Summer Board Meeting
July 11, 2012

Members Present:

Mike Studer, President-Elect and Program Chair

Bruce Kauffman, Membership Committee Chair

Steve Murphree, Secretary

Steve Powell, Treasurer and Predictions & Evaluation Committee Chair

Frank Hale, Historian, Local Arrangements Committee Chair & Auditing Committee Chair

Steve Hamilton, Awards and Recognitions Committee Chair; Publicity Committee Chair

The Summer Board Meeting was held on Wednesday, July 11, 2012 in a conference room at the University of Tennessee's Extension Central Region Office on the Ellington Agricultural Center campus.

President-Elect Mike Studer called the meeting to order at 2:15 p.m., CDT and asked for reports from officers and committee chairs.

Treasurer - Steve Powell distributed a bank statement with an available balance of \$4128.18 and stated that TES could afford to spend up to \$600.00 to pay for keynote speaker expenses for the October 11-12 annual meeting.

Awards and Recognitions Committee - Chair Steve Hamilton distributed the report included below. In addition, Steve will ask committee member John Skinner to give a memorial presentation about TES member Dr. Carl Jones who passed away in 2011. Frank Hale reported the recent death of Dr. Charles Hadden, University of Tennessee section leader for Extension faculty in Entomology and Plant Pathology, and agreed to give a memorial presentation about Dr. Hadden at the annual meeting.

Report of the Awards and Recognitions Committee

Chair, Steven W. Hamilton, Austin Peay State University

Member, John A. Skinner & Karen Vail, University of Tennessee – Knoxville

I have received no nominations for the Richard E. Caron Outstanding Entomologist Award and have heard nothing to indicate that I should anticipate one.

I will harass John Skinner for information on the winner of the 2012 State Winner's 4-H Entomology Project. This individual will receive the Harry E. Williams Award.

The Howard L. Bruer Award is given to a worthy student who has presented an insect-related project at a regional science fair in Tennessee. Any student having such a project at a regional science fair should receive a certificate and a package inviting them to submit their project to the TES Awards Committee. We have one submission this year from St. Mary's

School in Oak Ridge. The project investigates the occurrence of a coccid protozoan parasite in Monarch butterflies in eastern TN. I will share the submission package with the committee members and ask if they support giving the Bruer Award to this student.

The other major award is the Student Paper Competition, traditionally held on the first day of the meeting. For the second year in a row, we had only five student papers presented. We had nine student papers in the 2010 competition, so we need to urge (force?) students to participate.

The Awards Committee also has the responsibility of recognizing members who have passed away. This winter we lost Dr. Carl Jones, Entomology and Plant Pathology department head at UT-Knoxville. I hope someone from the department can deliver a brief remembrance at the start of our annual meeting in October.

Submitted by Steven W. Hamilton, July 11, 2012

Constitution/Operating Procedures – There was no report from this committee.

Insect Festival – Chair David Cook was reached by telephone during the meeting. He indicated that the Ed Jones Auditorium was unavailable on either October 11 or 12 TES for the Insect Festival. However, he stated that he would meet with the principal of Crieve Hall Elementary School on July 12th to discuss TES bringing the Insect Festival to a new facility at the school. David said that he would email the TES Executive Board with the results of that meeting. It was agreed that if the Insect Festival would again be successful, there would need to be 10-11 stations and that the assistance of graduate students from the University of Tennessee at Knoxville would be key.

Local Arrangements – Chair Frank Hale stated that with the assistance of Steve Powell, the Tennessee Wildlife Resources Agency's Region II conference room had been reserved for October 11-12. Frank also indicated that he had requested 10 rooms at the Baymont Inn & Suites in Brentwood for October 11 and 15 rooms for October 12. He also stated that the rate was \$69.00 per night (cutoff date to reserve a room is September 28th). Frank said that he will also be checking on restaurants in the Cool Springs area for the dinner on the evening of Thursday, October 11.

Membership – Chair Bruce Kauffman referred to a list from Treasurer Powell of individuals who registered at the 2011 annual meeting. The list included the names of 10 new or returning members. Bruce led a brainstorming session concerning how we could best get other entomologists to the annual meeting who had not attended previously.

Nominations – Chair Clete Youmans was absent. The strategy of rotating from university to industry to state entomologists for the President-Elect nominee was discussed as was the relatively new practice of nominating past TES presidents who are nearing retirement.

Prediction/Evaluation – Chair Steve Powell told Board members of new hemlock woolly adelgid records in the state as well as many new emerald ash borer records (10 counties as of July). Steve was puzzled by no gypsy moth catches in 2012 after a light year in 2011 and was somewhat concerned about the lure being used in 2012. Steve promised to pull together reports from his committee members to be presented at the annual meeting and included in the 2012 *Firefly*.

Program – President-Elect Mike Studer announced that the keynote speaker at the October 11-12 annual meeting will be Wayne Dixon, acting director of the Division of Plant Industries in Gainesville, Florida. Wayne's topic will deal with invasive species and President-Elect Studer will provide more information about Wayne Dixon and his topic to Publicity Chair Steve Hamilton and President Gene Burgess for the TES website. Pros and cons of the one-day meeting schedule implemented in 2011 (with a workshop on the second day) were presented and discussed. It was suggested that there may be more students in the 2012 Student Paper Competition since these individuals will likely use the TES meeting for practice before the national ESA meeting in Knoxville in November.

Publications/Editorial – Chair Jerome Grant was absent. Some discussion took place as to which past editions of the *Firefly* were on the TES website; Bruce Kauffman read from the 2010 minutes that the 2006, 2007 and 2008 editions were on the website. Steve Powell indicated that there have been no hard copies produced since 2002.

Publicity - Chair Steve Hamilton distributed the report included below. Steve also indicated that he would soon submit electronically the request for at TES Week proclamation to Governor Bill Haslam's office. Steve also noted that 2012 would be the 39th year of the Tennessee Entomological Society and this led to discussion about ways to commemorate the 40th year milestone for TES in 2013. Steve Murphree suggested that TES seek a special resolution from the state legislature and Frank Hale indicated that, as historian, he would produce a PowerPoint presentation of images from the past to be presented at the 2013 annual meeting. Steve Hamilton also asked for assistance in getting publicity out about the 2012 annual meeting. Frank Hale suggested that he contact Patty McDaniels who handles publicity for University of Tennessee events from her office at the UT Extension building at the Ellington Agricultural Center.

Report of the Publicity Committee

Chair, Steven W. Hamilton, Austin Peay State University
Member, David Cook, UT – Extension; Carla Coots UT – Knoxville (student); Jason Oliver, TSU – Nursery Research Center

I have draft the governor's proclamation of Entomology Week and will submit following today's meeting. I wanted to be sure of the meeting date before submitting it online.

I will work with the APSU PR department to getting two news releases, one about one month before and the next in the week preceding the annual meeting.

I may see if I can get the other member to do releases in their areas. Perhaps one of us will get local media to pick up the story. If Carla Coots is still at UT-K, I may ask her to publicize in the department. Maybe she could help get more student participation.

Submitted by Steven W. Hamilton, July 11, 2012

A motion to adjourn was made by Steve Hamilton and seconded by Bruce Kauffman. The motion passed and the meeting was adjourned by President-Elect Studer at 3:35 p.m., CDT.

Respectfully submitted,
Steve Murphree, Secretary

**TENNESSEE ENTOMOLOGICAL SOCIETY
MINUTES OF THE PRE MEETING
BOARD OF DIRECTORS AND COMMITTEE CHAIRMEN
October 11, 2012**

Members Present:

Gene Burgess, President
Mike Studer, President-Elect, Program Committee Chair
David Cook, Insect Festival Committee Chair
Bruce Kauffman, Membership Committee Chair
Steve Murphree, Secretary
Steve Hamilton, Awards and Recognitions Committee Chair, Publicity Committee Chair
Gray Haun, Constitution/Operating Procedures Committee Chair
Clete Youmans, Nominations Committee Chair
Steve Powell, Treasurer, Prediction/Evaluation Committee Chair

The Pre-Meeting Board of Directors Meeting was held on Thursday, October 11, 2012 in the TWRA Region II conference room on the Ellington Agricultural Center campus.

President Gene Burgess called to order 8:12 a.m. CDT and asked for reports from officers and committee chairs.

Secretary – Steve Murphree distributed for review copies of minutes from the July 11, 2012 Summer Board of Directors meeting, the September 30, 2011 Post-meeting Board of Directors meeting and the September 29, 2011 Annual Business meeting. Bruce Kauffman indicated that these sets of minutes had been circulated/revised via email and therefore had been approved.

Treasurer - Steve Powell distributed copies of a report which showed that TES had an available balance of \$4204.18. Steve commented that TES was in good financial condition and that one-half of keynote speaker Dr. Wayne Dixon's travel/lodging expenses would be paid from the TES checking account. Steve Hamilton moved to accept the report, Bruce Kauffman seconded the motion and the motion passed.

Awards and Recognition Committee - Chair Steve Hamilton distributed the report included below.

Report of the Awards and Recognitions Committee

Chair, Steve Hamilton, Austin Peay State University
Members, John Skinner and Karen Vail, University of Tennessee – Knoxville

This year we have awards in three categories. The only award not to be given is the Richard E. Caron Outstanding Entomologist Award.

The winner of the Harry E. Williams Award is Kade Parker of Maryville, Blount Co., TN. He had the winning 4H Entomology Project for the second year and is repeating as the TES Williams Award winner. John Skinner reports, “He is very interested in Entomology and I am encouraging him to seek a career in Entomology.”

The Howard Bruer Award is selected from regional science fair participants who have done projects with insects or related arthropods. They required to submit documentation of the project for consideration by committee members. This year’s winner is Julia Britto from Saint Mary’s School in Oak Ridge, TN. Her project, entitled “The Plight of the Monarch,” looks at the occurrence of *Ophryocystis elektroscirrha*, a gregarine protozoan, in Monarch Butterflies in East Tennessee.

There are only two students in the Student Paper Competition, one each from Austin Peay State University and UT- Knoxville. I will be seeking three judges for the competition. We will award a first (\$150) and second (\$75) place to presenters.

Again this year, we lost a TES member. Dr. Carl Jones, the chair for the Department of Entomology and Plant Pathology at the University of Tennessee, passed away on February 1. I have asked John Skinner to say a few words in remembrance of Dr. Jones.

In addition, Frank Hale reported at the summer board meeting that Dr. Charles Hadden had passed away. Dr. Hadden, a plant pathologist, had been a professor and section leader of Extension Entomology and Plant Pathology at UT. I do not know if he had been a TES member, but Frank had reported he was a mentor to him and others in the department. Frank was planning to say a few words in remembrance, but unfortunately he is unable to attend the TES meeting this year.

Submitted by Steven W. Hamilton, October 11, 2012

Constitution/Operating Procedures - Gray Haun reminded Board members that a proposal to change the Member-at-Large term from one to two years had been approved at the 2011 annual business meeting. Gray suggested that President Burgess announce this change at the beginning of today’s meeting so that the measure could be voted upon for final approval at today’s annual business meeting. Steve Hamilton made a motion to that effect, Clete Youmans seconded the motion, and the motion passed.

Insect Festival Committee – Chair David Cook reported that he was unable to reserve the Ed Jones auditorium for the insect festival this year. In addition, his attempt to bring the insect festival to Crieve Hall Elementary School was unsuccessful. David indicated that he would try to reserve the Ed Jones auditorium well in advance for the 2013 insect festival. He also hopes to schedule a summer, 2013 exhibition at the Ed Jones auditorium with a Lepidoptera emphasis. This exhibition would be based upon the John McWilliams/Timothy Genter butterfly and moth collection, part of which is on display at the 2012 TES meeting. Steve Murphree referred to a large home school email list to which an announcement of the exhibit could be sent. Steve Hamilton indicated that he knew of a collector in Montgomery County who has an extensive exotic Lepidoptera collection.

Local Arrangements Committee - Chair Frank Hale was absent. Committee member David Cook indicated that he had taken care of refreshments. President Burgess asked if anyone knew how many were staying at conference hotel but a count was unavailable. Mike Studer asked if Frank Hale had made arrangements at a restaurant for dinner but no one was aware of this. A brief discussion about the Chili's restaurant in Brentwood and McNamara's in Nashville took place.

Membership Committee – Chair Bruce Kauffman reported that he had polled his committee members concerning how to get TES more attention among prospective members. David Cook suggested that to get more exposure TES sponsor workshops for various groups and referred to how much interest in such workshops might come from county extension Facebook postings. David went on to describe how a Facebook announcement of a workshop on biting and stinging arthropods had brought in 15-20 participants. Steve Murphree said that he had taught arthropod workshops for three years in the Tennessee Naturalist program and that their Facebook page and Owl's Hill Nature Sanctuary email list could be used to hold a TES workshop. Clete Youmans said that a workshop with a particular focus (e.g., insect pests of roses) might also work. David Cook indicated that he will work towards planning a workshop in summer, 2013 workshop at Ed Jones auditorium. Discussion followed concerning the length of the workshop and whether participants should receive a certificate with TES logo.

Nominations Committee – Chair Clete Youmans reported that he had received some suggestions for a candidate for President-Elect. He also indicated that one of the Member-at-Large positions needed to be filled and that the Secretary and Treasurer should be re-elected if these officers were willing. Steve Hamilton agreed to allow his name to be presented for President-Elect provided that someone else would agree to chair the Publicity Committee (David Cook agreed to chair Publicity) and also the Awards and Recognitions Committee (Steve suggested Karen Vail and Mike Studer said that he would ask Karen.). Discussion followed concerning the open Member-at-Large position; Clete Youmans said he would serve if elected.

Prediction/Evaluation Committee- Chair Steve Powell distributed a report and stated that he would hand out/discuss maps and pest alerts during the annual business meeting. Gray Haun asked about the status of the walnut twig borer. Steve emphasized the spread of thousand cankers disease and said that the spread of emerald ash borer to 12 new counties was the big story. Steve also spoke about the spread of kudzu bug into the state and the strangely low numbers of gypsy

moth (only 13 trapped in the state perhaps because it was an unusual year for seasonal temperatures). Lastly, Steve reported on the red imported fire ant quarantine and acknowledged the help of committee member Scott Stewart (kudzu bug update) and Heather Slayton, who was hired to the Forest Health Specialist position which was formerly held by Clint Strohmeier.

Program Committee – Chair Mike Studer reported that few paper titles were submitted for this meeting and that he had to ask two presenters to give 45 minute talks. Mike predicted that the meeting will end earlier than was expected on Thursday afternoon.

Publication/Editorial Committee – Chair Jerome Grant was absent. Committee member Gray Haun said that, in particular, officer updates were needed on the TES website.

Publicity Committee – Chair Steve Hamilton distributed the report included below and asked for ideas about how to better publicize the annual meeting, the insect festival and other TES-sponsored events. Since Steve Hamilton had agreed to be nominated for President-Elect, David Cook volunteered to chair this committee and said that he wants to use electronic media in the coming year.

Report of the Publicity Committee

Chair, Steven W. Hamilton, Austin Peay State University
Member, David Cook, UT – Extension; Carla Coots UT – Knoxville (student); Jason Oliver, TSU – Nursery Research Center

Governor Haslam has signed the proclamation naming October 7 – 13, 2012 as Tennessee Entomology Week. The chair will provide the proclamation for presentation by Jimmy Hopper, Assistant Commissioner of Agriculture/Director of Regulatory Services to TES President Gene Burgess during the opening of the meeting.

With help of APSU Public Relations and Marketing, we developed a news release. The news release went out about two and a half weeks ago. I do know that the release showed up in a couple of local online news outlets, but it does not appear to have been picked up by any other news sources, including the Clarksville Leaf-Chronicle. This is very disappointing.

Submitted by Steven W. Hamilton, October 11, 2012

President Burgess called for other old business and none was forthcoming.

New Business – President Burgess asked about the dates of fall break for the University of Tennessee, Knoxville and a Board member stated that it will be October 17-18, 2013. It was decided that October 17-18 will be the dates of the 2013 TES annual meeting. Next, the feasibility of securing event insurance for the annual meeting, the insect festival, and the newly proposed summer workshop was discussed as a follow up to a summer, 2012 email correspondence among Board members. Treasurer Steve Powell stated that he did not favor securing event insurance due to the annual costs involved. He mentioned that as we involve the public more in workshops, etc., that this could become more of an issue. He was concerned that the option of raising membership dues in order to pay for insurance costs might discourage future membership, particularly of hobbyists. Gray Haun suggested that TES could acquire

insurance then secure funds from fees for events rather than from increased membership dues. It was pointed out that Frank Hale and Clete Youmans had both received event insurance quotes for \$500 per day from Tennessee Underwriters, Inc. Steve Powell called for more investigation of rates due to the costs. Gray Haun agreed and suggested that a committee be formed with power to start the event insurance process should it be found to be feasible. President Burgess asked Clete Youmans to chair the committee and requested that Frank Hale, Steve Powell and Steve Murphree serve on the committee. Clete Youmans stated that the proposed committee's work had already been done and that he was not in favor of securing event insurance for the foreseeable future. Steve Murphree asked for and received permission to determine if the cheaper rate paid by another organization to which he belongs could apply to TES events and report to the Board by the summer, 2013 Board meeting.

David Cook introduced Independence H.S. Science Teacher Timothy Genter to the TES Board.

President Burgess adjourned the meeting at 9:40 a.m. CDT

TENNESSEE ENTOMOLOGICAL SOCIETY
Minutes of the TES Business Meeting
October 12, 2012

MINUTES UNAVAILABLE

TENNESSEE ENTOMOLOGICAL SOCIETY
Minutes of the Post Meeting Board of Directors Meeting
October 12, 2012

MINUTES UNAVAILABLE

TENNESSEE ENTOMOLOGICAL SOCIETY

**Treasurer's Report
October 2011 – October 2012**

Books and Records audited by Auditing Committee

Balance on Hand 09-28-11	
Checking	3791.18
Cash	120.00
TOTAL ASSETS	3911.18

Disbursements

Brandon's (Plaques)	(98.00)
Carla Coots (1 st Place Student Award)	(150.00)
Angelina Fowler (2 nd Place Student Award)	(75.00)
TOTAL EXPENSES	(323.00)

Income

2011 Meeting Income	534.00
Post Meeting Income	82.00
TOTAL INCOME	616.00

Balance on Hand 10-10-12	
Checking	4084.18
Cash	120.00
TOTAL ASSETS	4204.18

Respectfully Submitted,

Steve Powell, Treasurer

**ATTENDANCE ROSTER OF THE 2012 ANNUAL MEETING
OF THE TENNESSEE ENTOMOLOGICAL SOCIETY**

<u>MEMBER</u>	<u>AFFILIATION</u>	<u>LOCATION</u>
<u>Regular Members</u>		
Bilbrey, Cindy	TN Dept. of Agri.	Nashville, TN
Bray, Alicia	TSU Nursery Crop Res. Sta.	McMinnville, TN
Burgress, Edward (Gene)	Univ. of TN (retired)	Knoxville, TN
Burton, Willodean D.S.	Austin Peay State Univ.	Clarksville, TN
Cook, David	Univ. of TN	Nashville, TN
Dixon, Wayne	FL Dept. of Agric.	Tallahassee, FL
Hamilton, Steven W.	Austin Peay St. Univ.	Clarksville, TN
Haun, Walker G. (Gray)	TN Dept. of Agri.	Nashville, TN
Kauffman, Bruce	TN Dept. of Agri.	Nashville, TN
Murphree, Steven C.	Belmont Univ.	Nashville, TN
Oliver, Jason B.	TSU Nursery Crop Res. Sta.	McMinnville, TN
Powell, Steve	TN Dept. of Agric.	Nashville, TN
Studer, Mike	TN Dept. of Agric.	Nashville, TN
Sudbrink, Jr., Donald L.	Miss. St. Univ.	Stoneville, MS
David Vore	Austin Peay State Univ.	Clarksville, TN
<u>Student Members</u>		
Hakeem, Abdul	Univ. of TN	Knoxville, TN
Brittney M. Jones	Austin Peay State Univ.	Clarksville, TN
<u>Sustaining/Corporate Members</u>		
Youmans, Clete	BASF	Dyersburg, TN

BOARD OF DIRECTORS

President – Eugene (Gene) Burgess
Past President – Bruce Kauffman
President Elect – Mike Studer
Secretary – Steve Murphree
Treasurer - Steve Powell
Editor – Jerome Grant
Historian - Frank Hale
Member-at-Large – David Cook
Member-at-Large – Steve Hamilton

COMMITTEES: 2011 - 2012

AUDITING

Frank Hale
Clete Youmans

AWARDS

Steve Hamilton, Chair
John Skinner
Karen Vail

CONSTITUTION/OPERATIONAL PROCEDURES

Gray Haun, Chair
Gene Burgess

LOCAL ARRANGEMENTS

Frank Hale, Chair
David Cook
Gray Haun
Steve Powell

MEMBERSHIP

Bruce Kauffman, Chair
Gene Burgess

NOMINATING

PREDICTION/EVALUATION

Steve Powell, Chair
Heather Slayton
Scott Stewart

PROGRAM

Mike Studer

PUBLICATION/EDITORIAL

Jerome Grant, Chair
Gray Haun
Jason Oliver

PUBLICITY

Steve Hamilton, Chair
David Cook
Carla Coots
Jason Oliver

INSECT FESTIVAL

David Cook, Chair

Tennessee Entomological Society

Prediction and Evaluation

Committee Report

October 12, 2012

Steve Powell - Chair
Committee Members:
Heather Slayton
Scott Stewart

In 2012, 12 additional counties were found to be infested with Emerald Ash Borer in Tennessee. They were Roane, Monroe, Cocke, Greene, Hawkins, Hancock, Hamblen, Jefferson, Union, Campbell, Anderson, and Smith. Prior to 2012, Emerald Ash Borer had been found in Knox, Loudon (2010) and Blount, Sevier, Grainger, and Claiborne (2011). In 2012, only 13 adult Gypsy Moths were captured in Tennessee (and 1 just across the state line in Georgia – Catoosa County). The moths by county are as follows: Davidson – 2; Grundy – 1 (A new county record for Grundy); Bradley – 1; Monroe – 1; Sevier – 2; Jefferson – 1, Washington – 3; Sullivan -1; Johnson – 1. Roane County (Pattie Gap) has a known infestation, but was negative in 2012 and will be declared eradicated if also negative in 2013. Only 1 trap was multiple (3 in 1 trap in Washington County). The kudzu bug has been found in the following counties: Polk, Bradley, Hamilton, McMinn, Rhea, Bledsoe, Sequatchie, Marion, Roane, and Knox. The walnut twig beetle has been found in Rhea County (only new county so far in 2012 to my knowledge). The imported fire ant quarantine in Tennessee remains unchanged since 2010.

Steve Powell 10-10-2012

Thousand Cankers Disease

Dieback and mortality of eastern black walnut (*Juglans nigra*) in several Western States have become more common and severe during the last decade. A tiny bark beetle is creating numerous galleries beneath the bark of affected branches, resulting in fungal infection and canker formation. The large numbers of cankers associated with dead branches suggest the disease's name—*thousand cankers disease*.

The principal agents involved in this disease are a newly identified fungus (*Geosmithia* sp. with a proposed name of *Geosmithia morbida*) and the walnut twig beetle (*Pityophthorus juglandis*). Both the fungus and the beetle only occur on walnut species. An infested tree usually dies within 3 years of initial symptoms.

Thousand cankers disease has been found in many Western States (figure 1). The first confirmation of the beetle and fungus within the native range of black walnut was in Tennessee (July 2010). The potential damage of this disease to eastern forests could be great because of the widespread distribution of eastern black walnut, the susceptibility of this tree species to the disease, and the capacity of the fungus and beetle to invade new areas and survive under a wide range of climatic conditions in the west.

Disease Symptoms

The three major symptoms of this disease are branch mortality, numerous small cankers on branches and the bole, and evidence of tiny bark beetles. The earliest symptom is yellowing foliage that progresses rapidly to brown wilted foliage, then finally branch mortality (figure 2). The fungus causes distinctive circular to oblong cankers in the phloem under the bark, which eventually kill the cambium (figure 3). The bark surface may have no symptoms, or a dark amber stain or cracking of the bark may occur directly above a canker. Numerous tiny bark beetle entrance and exit holes are visible on dead and dying branches (figure 4), and bark beetle galleries are often found within the cankers. In the final stages of disease, even the main stem has beetle attacks and cankers.

Geosmithia sp.

Members of the genus *Geosmithia* have not been considered to be important plant pathogens, but

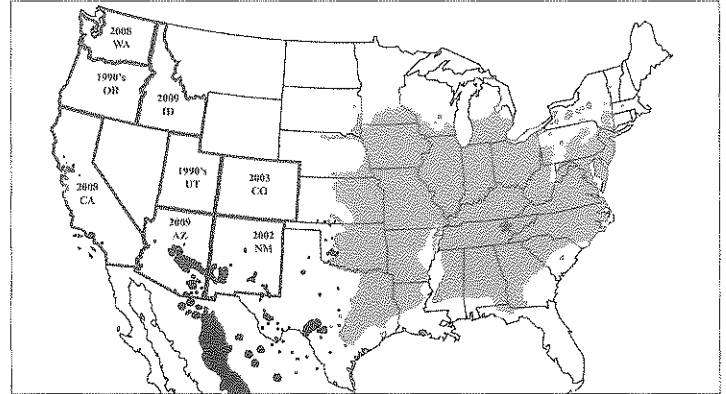


Figure 1. Thousand cankers disease occurs in eight western states (outlined in red) and in the east was first confirmed in Knoxville, TN in July 2010 (see *). In the west the year when symptoms were first noted is given. Native distributions of four species of western walnuts (blue) and eastern black walnut (green) are also shown. Eastern black walnut is widely planted in the West, but not depicted on this map.



Figure 2. Wilting black walnut in the last stages of thousand cankers disease.

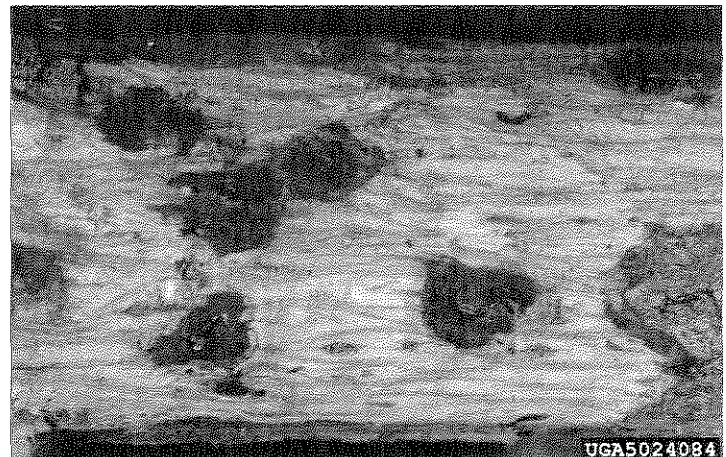
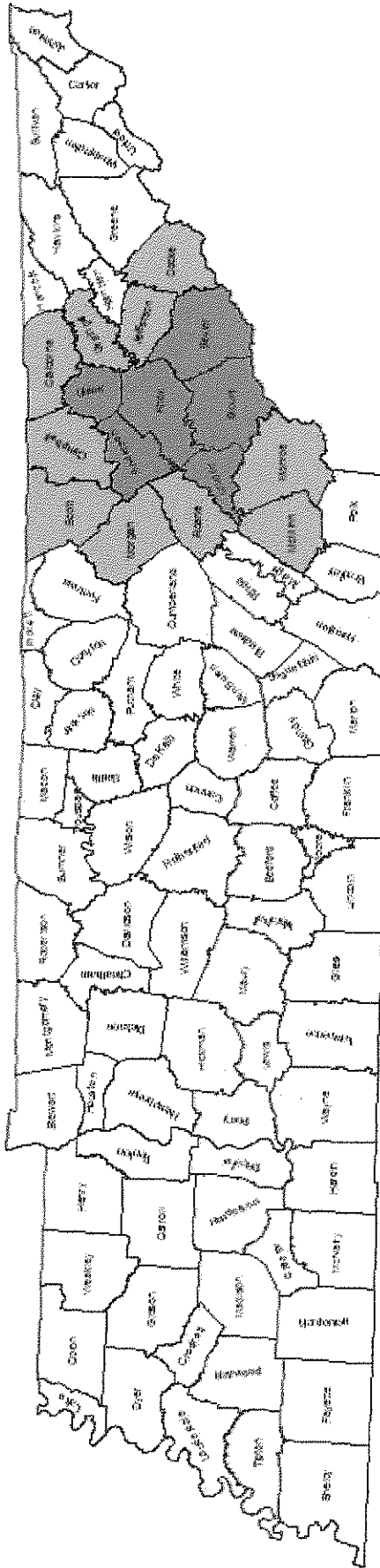


Figure 3. Small branch cankers caused by *Geosmithia morbida*.

2011 Tennessee Thousand Canker Disease Regulated Counties



Thousand Cankers Disease Quarantined Areas

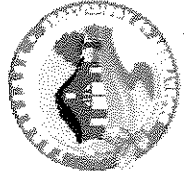
Anderson, Blount, Knox, Loudon, Sevier and Union Counties.

Citizens in these counties cannot move walnut tree products and hardwood firewood outside the quarantined counties.

Thousand Cankers Disease Buffer Regulated Areas

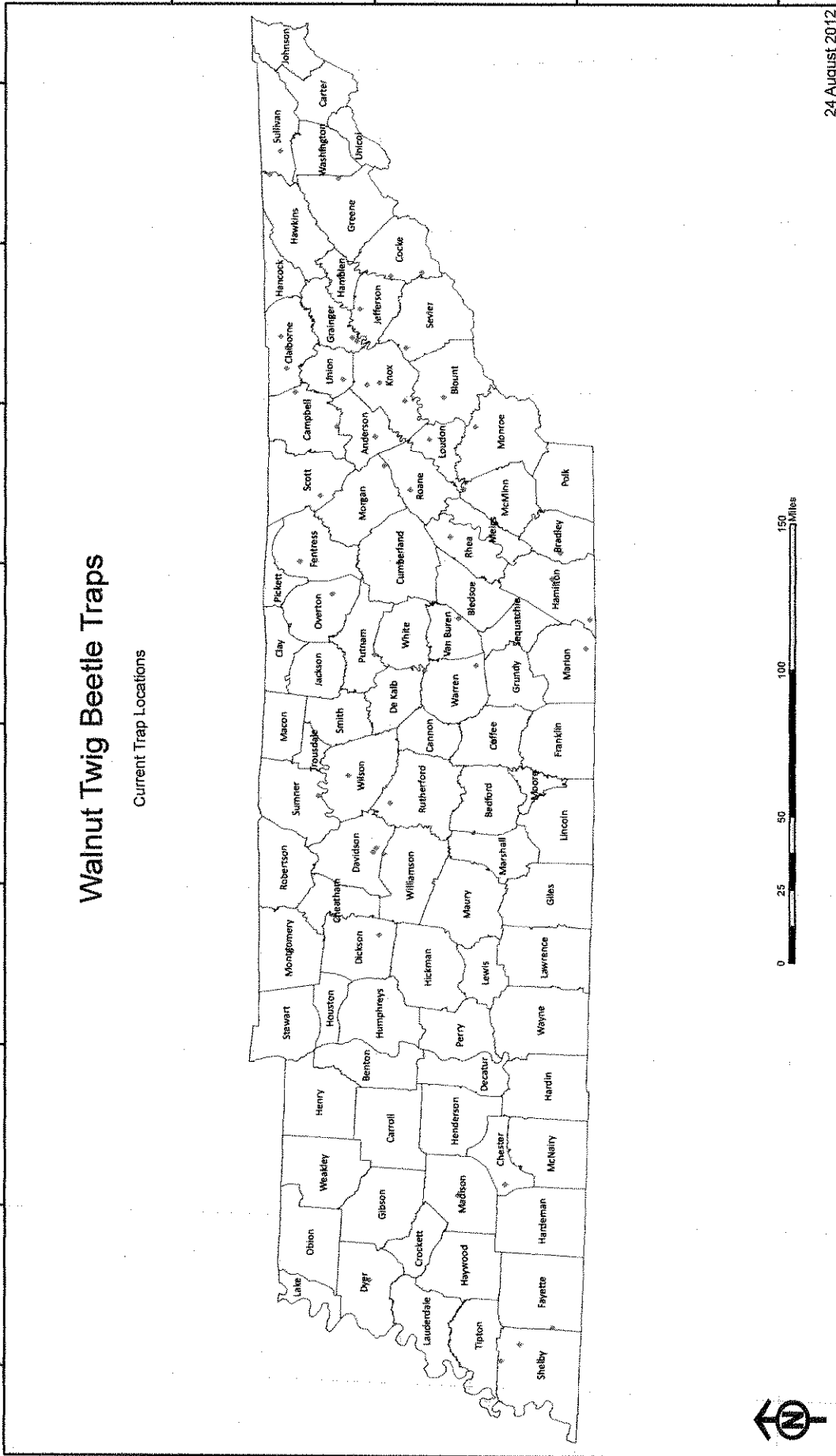
Campbell, Claiborne, Cocke, Grainger, Jefferson, McMinn, Monroe, Morgan, Roane, and Scott counties.

Citizens in buffer counties/areas can move walnut tree products and hardwood firewood within buffer counties, but not outside. Product can also be moved into a quarantine county, but not taken back out.

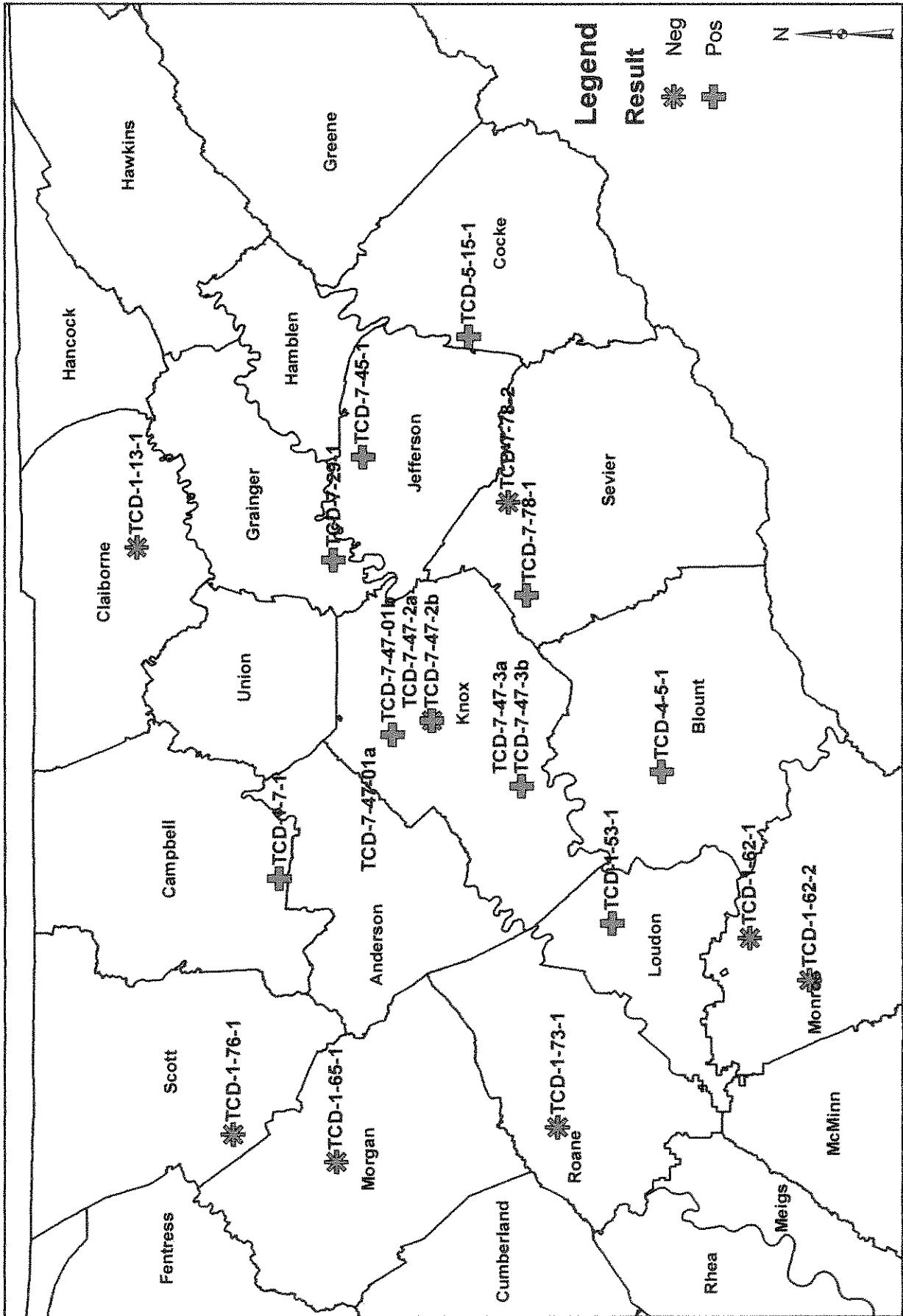


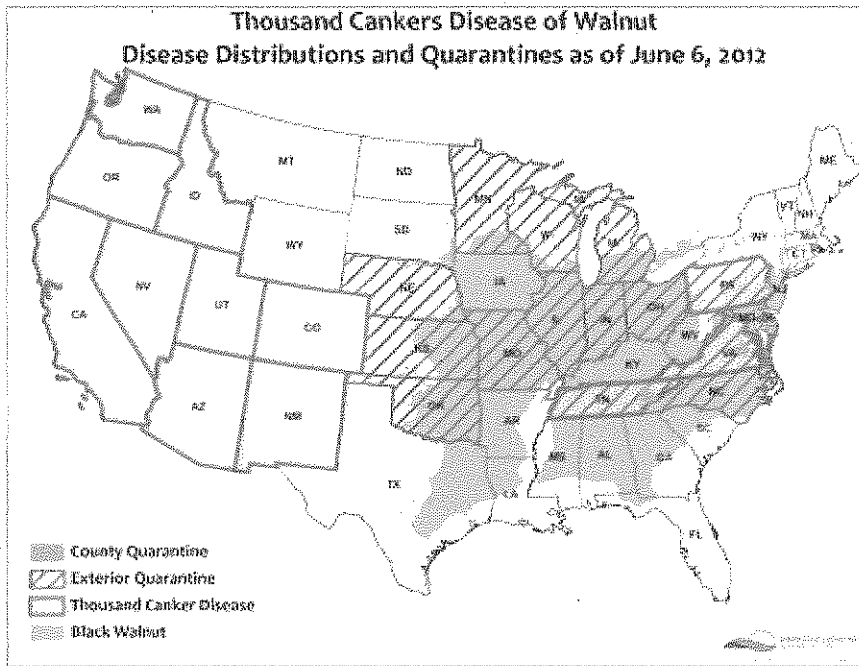
Walnut Twig Beetle Traps

Current Trap Locations

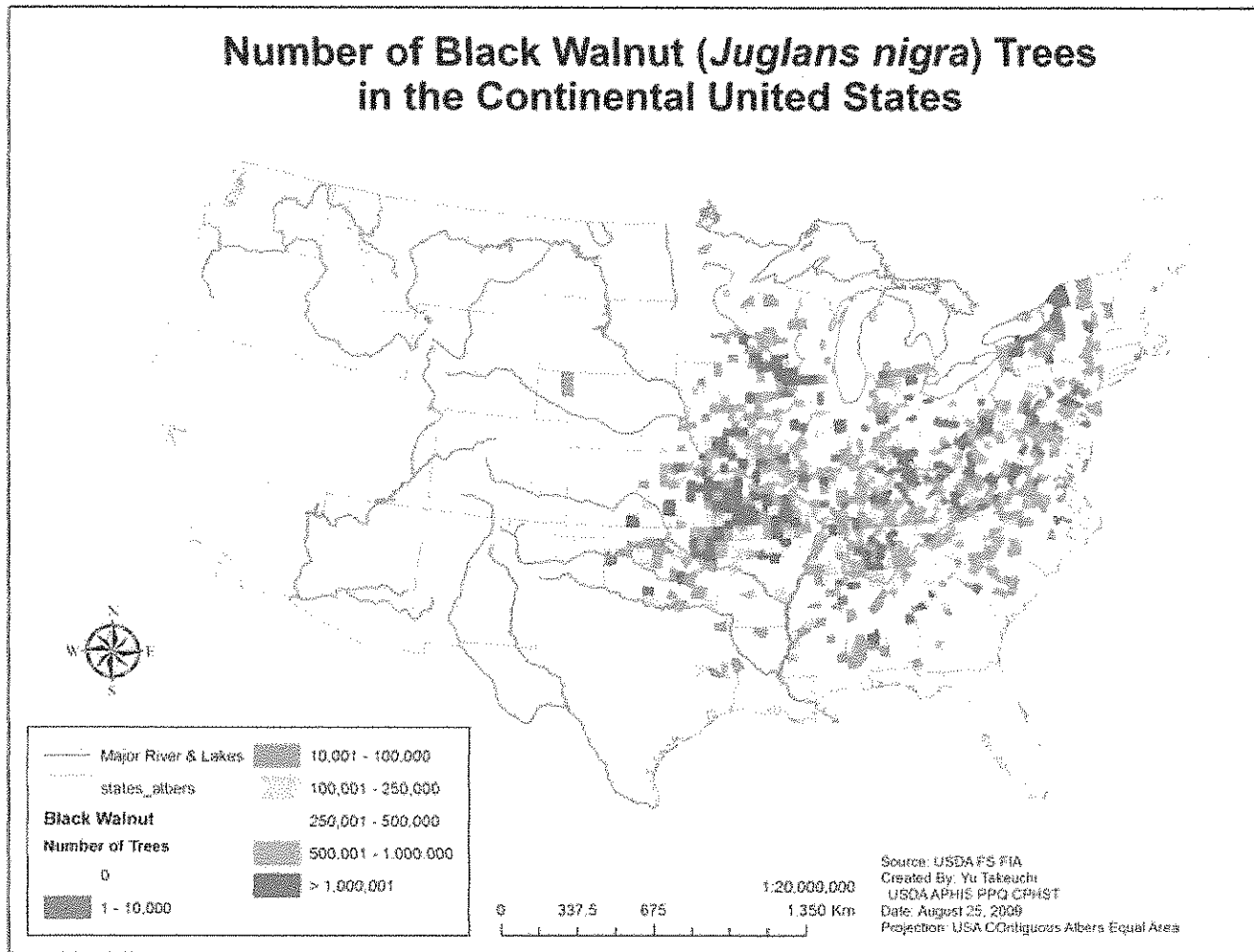


WTB in Tennessee July 29th 2011 to Oct 18th 2011 Results

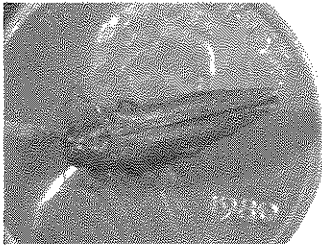




Number of Black Walnut (*Juglans nigra*) Trees in the Continental United States



Emerald Ash Borer



A beetle from Asia, *Agrilus planipennis* Fairmaire (Coleoptera: Buprestidae), was identified in July 2002 as the cause of widespread ash (*Fraxinus* spp.) tree decline and mortality in southeastern Michigan and Windsor, Ontario, Canada. Larval feeding in the tissue between the bark and sapwood disrupts transport of nutrients and water in a tree, eventually causing branches and the entire tree to die. Tens of millions of ash trees in forest, rural, and urban areas have already been killed or are heavily infested by this pest.

A. planipennis has been found throughout Michigan, across much of Ohio, and in parts of Indiana, Illinois, Maryland, Missouri, Pennsylvania, Virginia, West Virginia and Wisconsin. Infestations have also been found in more areas of Ontario and in the province of Quebec. The insect is likely to be

found in additional areas as detection surveys continue. Evidence suggests that *A. planipennis* is generally established in an area for several years before it is detected.

The broad distribution of this pest in the United States and Canada is primarily due to people inadvertently transporting infested ash nursery stock, unprocessed logs, firewood, and other ash commodities. Federal and state quarantines in infested states now regulate transport of these products.

Identification

Adult beetles are generally larger and brighter green (Fig. 1) than the native North American *Agrilus* species. Adults are slender, elongate, and 7.5 to 13.5 mm long. Males are smaller than females and have fine hairs, which the females lack, on the ventral side of the thorax. Adults are usually bronze, golden, or reddish green overall, with darker, metallic emerald green wing covers. The dorsal side of the abdomen is metallic purplish red and can be seen when the wings are spread (Fig. 2). The prothorax, the segment behind the head and to which the first pair of legs is attached, is slightly wider than the head and the same width as the base of the wing covers.

Larvae reach a length of 26 to 32 mm, are white to cream-colored, and dorso-ventrally flattened (Fig. 3). The brown head is mostly retracted into the prothorax, and only the mouthparts are visible. The abdomen has 10 segments, and the last segment has a pair of brown, pincer-like appendages.

Biology

A. planipennis generally has a 1-year life cycle. In the upper Midwest, adult beetles begin emerging in May or early June. Beetle activity peaks between mid June and early July, and continues into August. Beetles probably live for about 3 weeks, although some have survived for more than 6 weeks in the laboratory. Beetles generally are most active during the day, particularly when it is warm and sunny. Most beetles appear to remain in protected locations in bark crevices or on foliage during rain or high winds.

Throughout their lives beetles feed on ash foliage, usually leaving small, irregularly shaped patches along the leaf margins. At least a few days of feeding are needed before beetles mate, and an additional 1 to 2 weeks of feeding may be needed before females begin laying eggs. Females can mate multiple times. Each female probably lays 30-60 eggs during an average lifespan, but a long-lived female may lay more than 200 eggs. Eggs are deposited individually in bark crevices or under bark flaps on the trunk or branches, and soon darken to a reddish brown. Eggs hatch in 7 to 10 days.

After hatching, first instar larvae chew through the bark and into the phloem and cambial region. Larvae feed on phloem for several weeks, creating serpentine (S-shaped) galleries packed with fine sawdust-like frass. As a larva grows, its gallery becomes progressively wider (Fig. 4). Beetle galleries often etch the outer sapwood. The length of the gallery generally ranges from 10 to 50 cm. Feeding is usually completed in autumn.

Prepupal larvae overwinter in shallow chambers, roughly 1 cm deep, excavated in the outer sapwood or in the bark on thick-barked trees. Pupation begins in



Figure 1. Adult emerald ash borer.

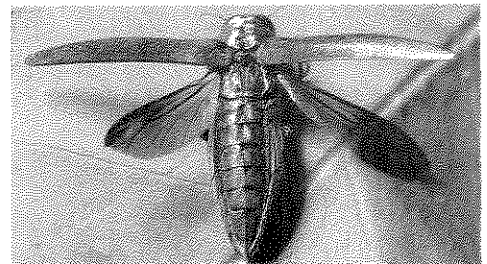


Figure 2. Purplish red abdomen on adult beetle.



Figure 3. Second, third, and fourth stage larvae.

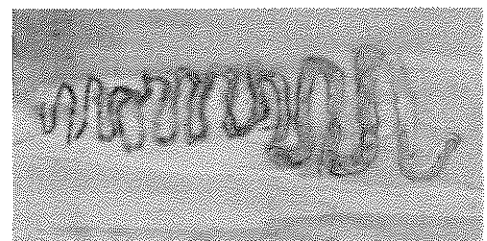
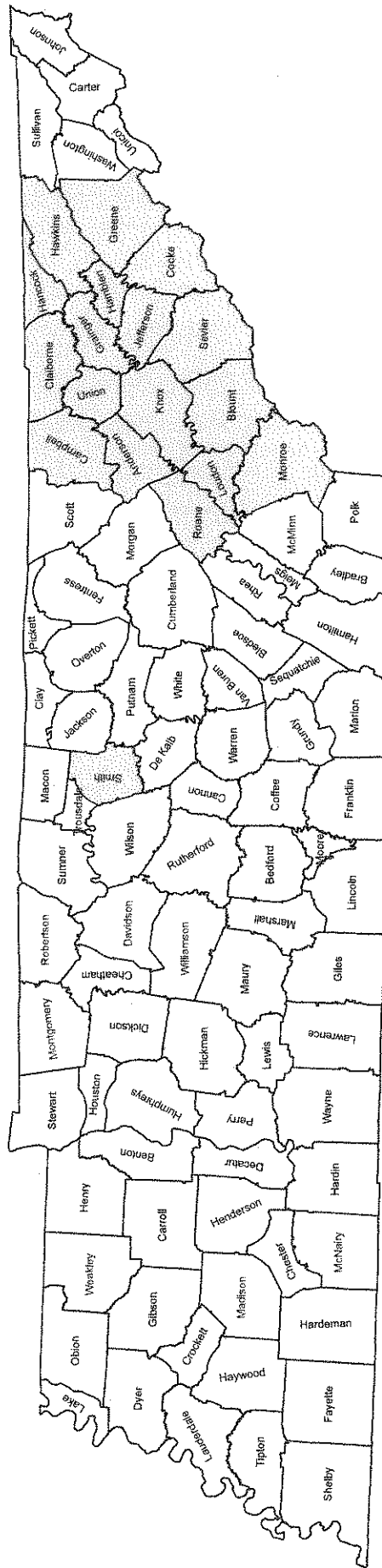
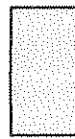


Figure 4. Gallery of an emerald ash borer larva.

Tennessee Emerald Ash Borer Quarantine



Emerald Ash Borer Quarantined Areas

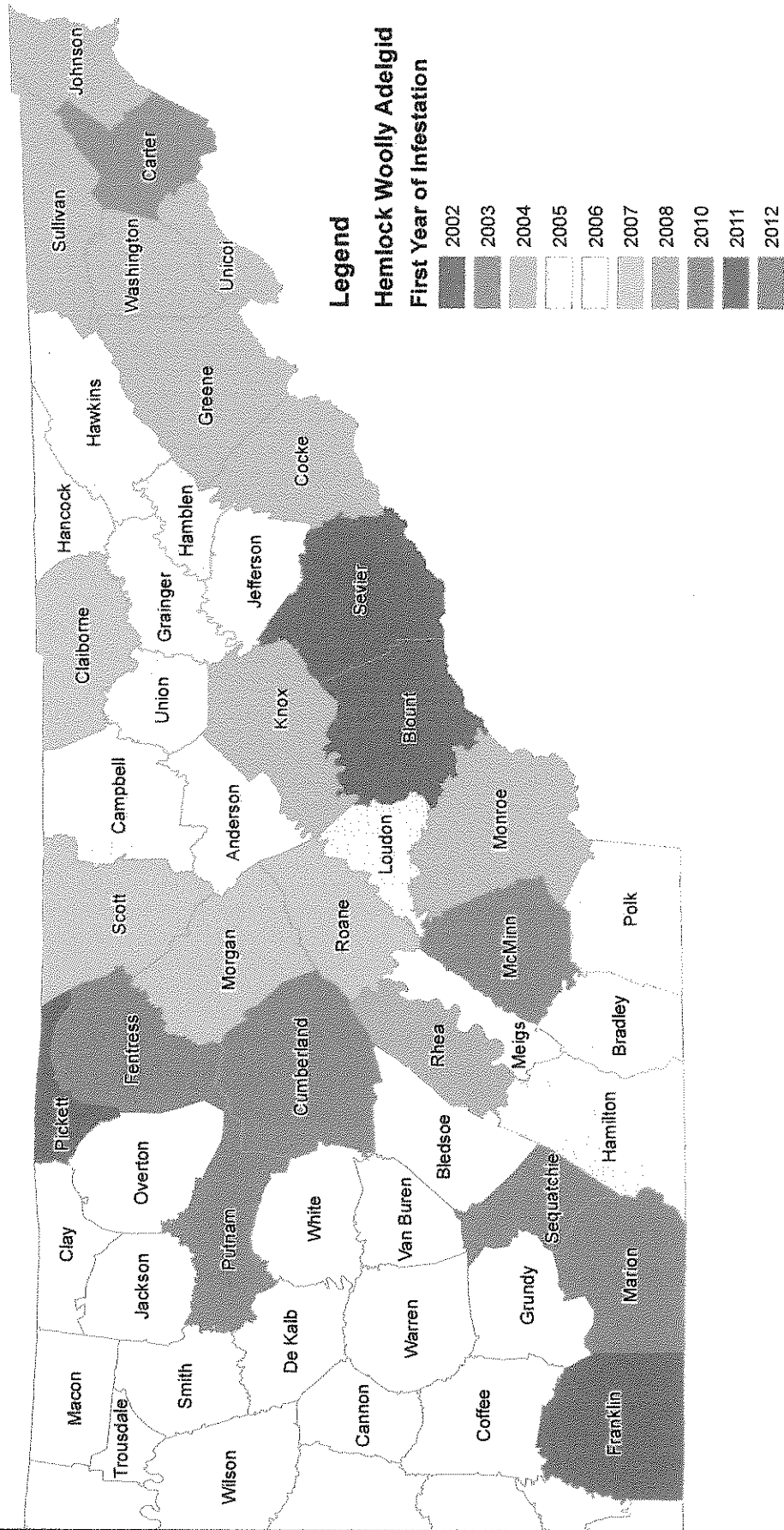


In Tennessee, EAB quarantines exist for 18 counties. They include **Anderson, Campbell, Claiborne, Cocke, Blount, Grainger, Greene, Hamblen, Hancock, Hawkins, Hays, Jefferson, Knox, Loudon, Monroe, Roane, Sevier, Smith and Union Counties**. The following are regulated articles:

- (a) Emerald Ash Borer; firewood of all hardwood (non-coniferous) species; nursery stock; green lumber, and other material living, dead, cut, or fallen, including logs, stumps, roots, branches, mulch and composted and uncomposted chips of the genus *Fraxinus*.
- (b) Any other article, product, or means of conveyance not listed in paragraph (a) of this section may be designated as a regulated article if the Commissioner determines that it presents a risk of spreading Emerald Ash Borer and notifies the person in possession of the article, product, or means of conveyance that it is subject to these regulations.



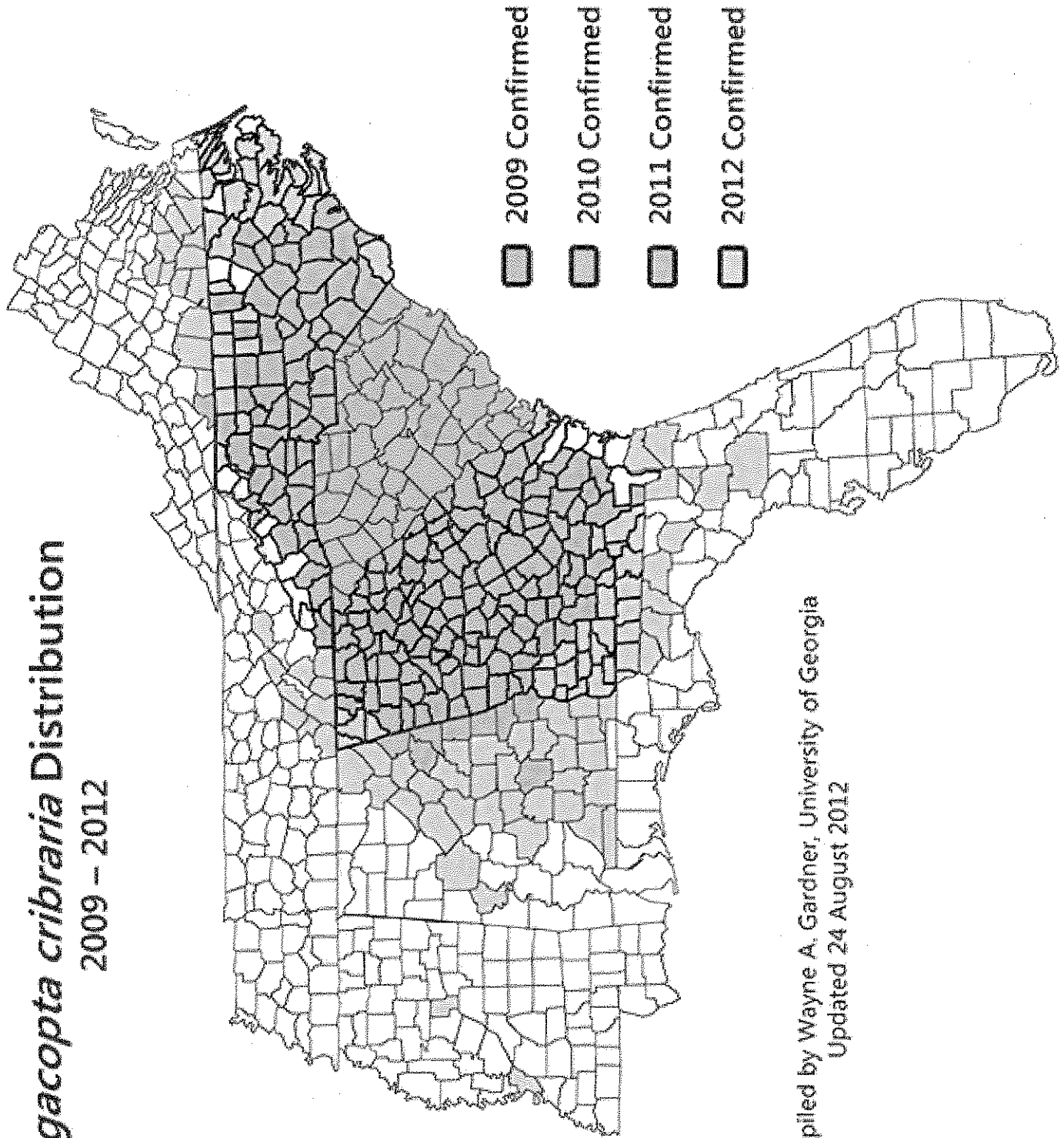
Tennessee Counties with Hemlock Woolly Adelgid Occurrences



As of August 2012, 35 Tennessee counties had occurrences of Hemlock Woolly Adelgid.

Megacopta cribraria Distribution

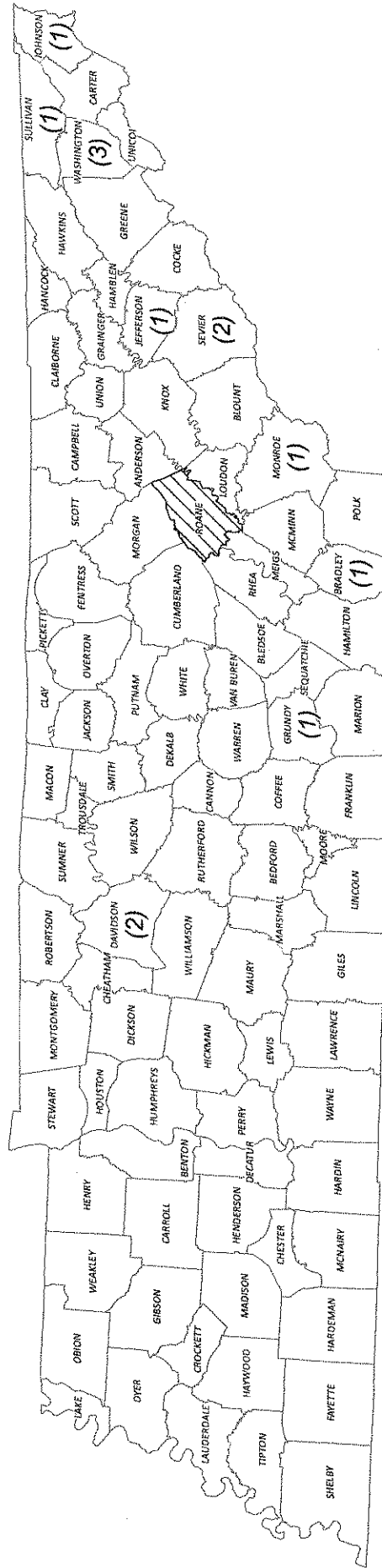
2009 – 2012



Map compiled by Wayne A. Gardner, University of Georgia
Updated 24 August 2012

2012 Gypsy Moth Catches by County

Tennessee Department of Agriculture



13 Adult Gypsy Moths were caught in 11 traps in 9 counties in 2012

**Counties with
Known Infestations**

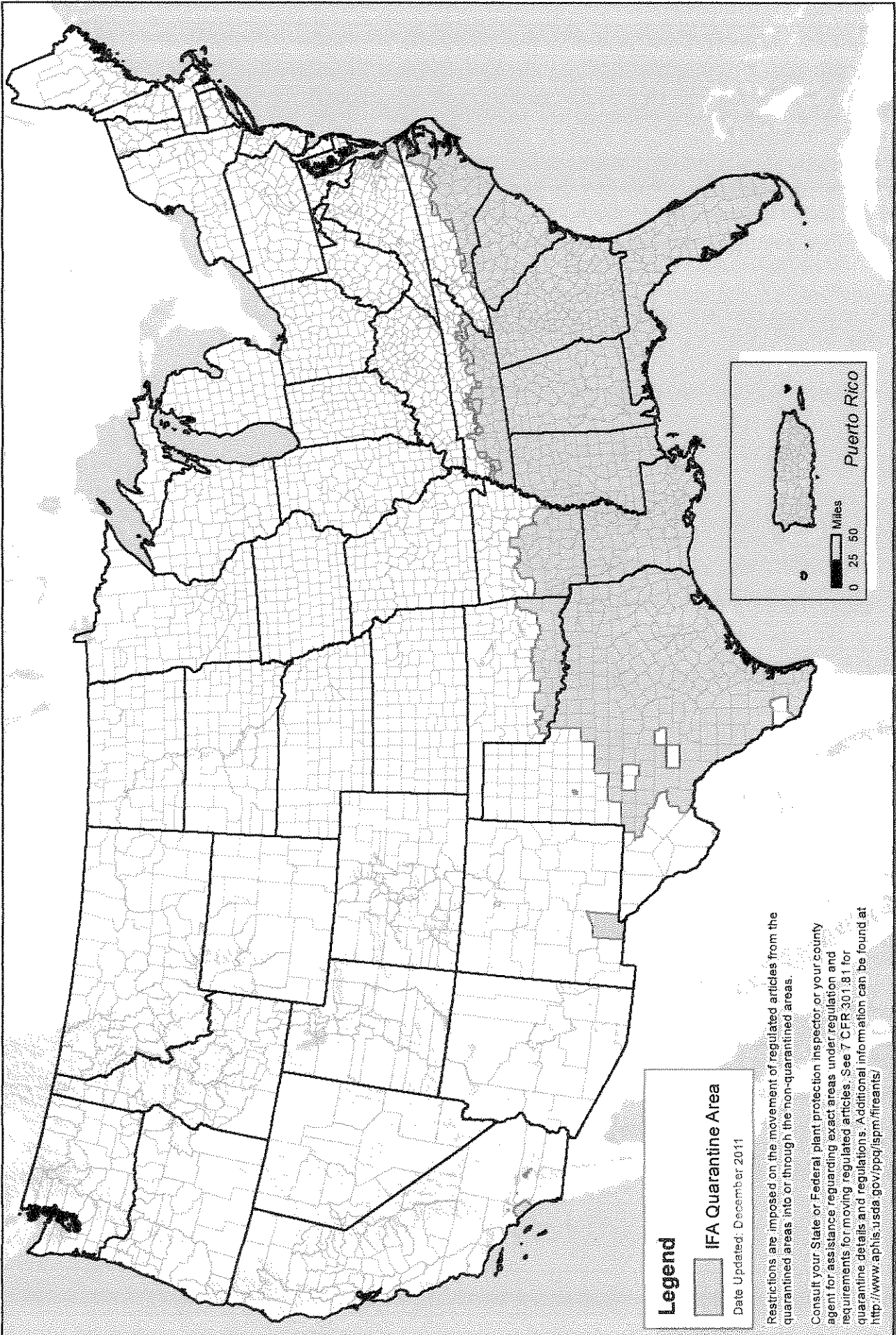
Roane

Legend

County with known gypsy moth infestation

(#) Number of gypsy moth(s) caught

Imported Fire Ant Quarantine



Legend

 IFA Quarantine Area

Date Updated: December 2011

Restrictions are imposed on the movement of regulated articles from the quarantined areas into or through the non-quarantined areas.

Consult your State or Federal plant protection inspector or your county agent for assistance regarding exact areas under regulation and requirements for moving regulated articles. See 7 CFR 301.81 for quarantine details and regulations. Additional information can be found at <http://www.aphis.usda.gov/ppq/ispm/fireants/>

USDA-APHIS-PPQ
2160 Center Ave.
Fort Collins, CO 80526

0 100 200 300 400
Miles



Data Sources:
TeleAtlas Dynamap, USDA-APHIS-PPQ
ESRI Relief © 2009 ESRI

Coordinate System:
Lambert Azimuthal Equal Area
Document #: PPG 111115/13948237

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service collected the data displayed for internal agency purposes only. These data may be used by others; however, they must be used for their original intended purpose.

Tennessee Emerald Ash Borer Quarantine



Emerald Ash Borer Quarantined Areas

In Tennessee, EAB quarantines exist for 18 counties. They include **Anderson, Campbell, Claiborne, Cocke, Blount, Grainger, Greene, Hamblen, Hancock, Hawkins, Jefferson, Knox, Loudon, Monroe, Roane, Sevier, Smith and Union Counties.** The following are regulated articles:

- (a) Emerald Ash Borer; firewood of all hardwood (non-coniferous) species; nursery stock, green lumber, and other material living, dead, cut, or fallen, including logs, stumps, roots, branches, mulch and composted and uncomposted chips of the genus *Fraxinus*.
- (b) Any other article, product, or means of conveyance not listed in paragraph (a) of this section may be designated as a regulated article if the Commissioner determines that it presents a risk of spreading Emerald Ash Borer and notifies the person in possession of the article, product, or means of conveyance that it is subject to these regulations.

Sept. 20, 2012

<http://tn.gov/agriculture/regulatory/eab.html>





TENNESSEE COOPERATIVE GYPSY MOTH PROGRAM 2012

Heather Slayton
 Department of Agriculture
 Division of Forestry
 P. O. Box 40627
 Nashville, TN 37204
 615-837-5432
 fax: 615-837-5129
Heather.Slayton@tn.gov

Overview

A total of 13,140 traps were placed in Tennessee for gypsy moth in 2012, including 12,150 detection and 990 delimiting traps. TDF placed 12,847 traps (9,411 seasonal, 3,436 full-time); USDA APHIS-PPQ placed 144 traps, Department of Energy placed 55, and FS CNF placed 94.

A total of 13 moths were caught in 9 Tennessee counties (see Table 1 and attached map). The majority of moths (10) were caught in high risk areas while 1 moth was caught in a 1 X 1 trap and 2 moths were caught in separate 1 X 4 traps. There was 1 trap that caught multiple moths (3) this year. Grundy County set a new trap record as one moth was caught.

Table 1. Gypsy Moth Trap Catches and Program Costs – 1992 through 2012

	Total Catch Areas	New Catch Areas	# Moths	# Moths/Area	# Traps	Program Costs
1992	36	23	227	6.3	8,376	\$287,520
1993	53	41	4,654	87.8	9,662	\$235,240
1994	63	44	1,304	20.7	13,101	\$662,000
1995	75	56	295	3.9	19,366	\$815,486
1996	49	45	2,549	52	18,279	\$324,558
1997	53	40	221	4	18,369	\$431,901
1998	60	44	397	6.6	19,406	\$286,904
1999	41	33	159	3.9	19,755	\$530,845
2000	51	40	127	2.5	16,038	\$372,000
2001	58	47	6,798	117.2	16,282	\$372,000
2002	79	68	1,630	20.6	14,606	\$742,000
2003	69	59	208	3.1	14,819	\$922,000
2004	42	27	132	3.1	15,264	\$862,000
2005	30	19	61	2	15,457	\$755,192
2006	50	44	71	1.4	15,138	\$575,000
2007	47	37	68	1.4	15,665	\$627,539
2008	38	29	63	1.7	13,225	\$460,183
2009	83	50	150	1.8	12,480	\$362,991
2010	27	16	510	18.9	14,214	\$536,133
2011	6	5	13	2.2	13,429	\$758,567
2012	9	9	13	1.4	12,847	\$486,687

Eradication

Eradication efforts appear to have been effective over the 1,629 acres aerially treated with Btk (*Bacillus thuringiensis var kurstaki* at 36 BIU/ac) from April 19 – 28, 2011. At the Pine Road and Hwy 127 sites in Bledsoe County no moths were caught. At the Pattie Gap site in Roane County no moths were caught. TDF conducted 2 ground spray operations at the Roane County site in the spring of 2012 in addition to installing 20+ burlap band traps targeting gypsy moth caterpillars. No gypsy moth caterpillars were found.

Johnson and Bledsoe Counties infestations are now considered eradicated. The Roane County site requires one more year of negative trap data to be considered eradicated.

Egg Mass Surveys

One egg mass survey was conducted during winter of 2011-2012 (Pattie Gap site in Roane County). No egg masses were found.

Trapping

The Tennessee Department of Agriculture, Division of Forestry (TDF) hired 31 seasonal trappers with 50/50 cost-share funding assistance from two USDA APHIS-PPQ cooperative agreements to trap urban areas (1 trap/square mile), selected rural areas (1 trap/4 square miles), recreation areas and sawmills (random traps), and 10 delimiting sites (28.5 square miles). Additional funding for trapping operations was secured through the Slow The Spread Foundation.

TDF, under a cooperative agreement with the USDA APHIS-PPQ, also used its full-time personnel to trap one-half of each of 69 counties in the state (1 trap/4 square miles).

Other cooperating trapping agencies included the USDA Forest Service, USDI National Park Service, Tennessee Valley Authority, US Army Corps of Engineers, US Army, USDI Fish and Wildlife Service, US Air Force, and US Department of Energy.

Detection Site Trapping

A total of 12,150 traps were placed in 2012 to discover introductions of the gypsy moth into the state. The traps were of the following types and numbers:

- Rural grid (1 trap/4 square miles) – 5,153
- Urban grid (1 trap/1 square mile) – 4,175
- Recreation areas – 2,420
- Sawmills – 402

Detection traps caught 13 moths at 11 different sites, which is 5 more sites than 2011. 79 of the 95 counties in Tennessee have had at least one moth trapped in them since the first moths were caught in 1972 in Cocke and Sevier Counties in East Tennessee. Grundy County in Middle Tennessee was the only new county find during 2012. Only 1 detection site had multiple moths (Washington County with 3 moths in one trap).

Gypsy moths were caught in the following detection trap types statewide:

- Recreation areas – 8 sites
- Urban areas – 1 sites
- Rural areas – 2 sites

These sites will be delimited at varying trap rates (5-36 traps/square mile) during 2013 to help determine the extent of potential infestations.

Delimiting Site Trapping

A total of 990 traps were placed in 10 delimiting sites in 2012 (5 to 36 traps/square mile) statewide. These efforts evaluated sites where the gypsy moth was found in 2011 but may not be established (no other life stages were found in most sites). No moths were caught at these delimiting sites.

Planned Activities for 2013


- Detection trapping statewide will continue in 2013 with an estimated 14,000 traps.
- 12 sites are proposed for delimiting trapping with an estimated 268 traps.
- Egg mass survey will be conducted this winter at the Roane and Washington County sites.
- Upgrade 1x1 and 1X4 maps with focus on trap placement accuracy and efficiency.

2012 Gypsy Moth Catches by County Tennessee Department of Agriculture



13 Adult Gypsy Moths were caught in 11 traps in 9 counties in 2012

Legend

-  County with known gypsy moth infestation
- (#) Number of gypsy moth(s) caught

**Counties with
Known Infestations**

Roane

HISTORICAL NOTES

Presidents of the Tennessee Entomological Society (1973 - Present)

<u>President</u>	<u>Term</u>	<u>Affiliation</u>
Mendell Snodgrass	'73 - '74	USDA
Omar Smith	'74 - '75	Memphis State University
Don Clements	'75 - '76	Cook's Pest Control
Gary Lentz	'76 - '77	University of Tennessee
Chester Gordon	'77 - '78	Tenn. Dept. of Agriculture.
Gene Burgess	'78 - '79	University of Tennessee
Reid Gerhardt	'79 - '80	University of Tennessee
Harold Bancroft	'80 - '81	Memphis State University
Joe Dunn	'81 - '82	American Cyanamid Company
Bill Van Landingham	'82 - '83	Tenn. Dept. of Agriculture
Carl Brown	'83 - '84	Memphis State University
Charles Pless	'84 - '85	University of Tennessee
Michael E. Cooper	'85 - '86	Tenn. Dept. of Agriculture
Elmo Shipp	'86 - '87	Mobay
Bill Shamiyeh	'87 - '88	University of Tennessee
Harvey Barton	'88 - '89	Arkansas. State University
Harry Williams	'89 - '90	University of Tennessee
Bruce Kauffman	'90 - '91	Tenn. Dept. of Agriculture
Jamie Yanes, Jr.	'91 - '92	American Cyanamid Company
Jerome Grant	'92 - '93	University of Tennessee
Russ Patrick	'93 - '94	University of Tennessee
Lynn Snodderly	'94 - '95	Tenn. Dept. of Agriculture
Paris Lambdin	'95 - '96	University of Tennessee
Frank Hale	'96 - '97	University of Tennessee
Steve Murphree	'97 - '98	Belmont University
Clete Youmans	'98 - '99	American Cyanamid
Catharine Mannion	'99 - '00	TN Nursery Crop Res. Cnt.
Gray Haun	'00 - '01	Tenn. Dept. of Agriculture
Steven Hamilton	'01 - '02	Austin Peay State University
????	'02 - '03	????
John Skinner	'03 - '04	University of Tennessee
Scott Stewart	'04 - '05	University of Tennessee
Cindy Bilbrey	'05 - '06	Tenn. Dept. of Agriculture
Karen Vail	'06 - '07	University of Tennessee
Don Sudbrink	'07 - '08	Austin Peay State University
Bruce Kaufmann	'08 - '09	University of Tennessee
David Cook	'09 - '10	University of Tennessee
Cletus Yeomans	'10 - '11	BASF
Gene Burgess	'11 - '12	University of Tennessee

**Secretary-Treasurers of the Tennessee
Entomological Society (1973 - 1991)**

<u>Secretary-Treasurer</u>	<u>Term</u>	<u>Affiliation</u>
Jimmy White	'73 - '76	Tenn. Dept. of Agriculture
Harold Bancroft	'76 - '79	Memphis State University
Lyle Klostermeyer	'79 - '82	University of Tennessee
Bill Shamiyeh	'82 - '85	University of Tennessee
Richard Caron	'85 - '91	University of Tennessee

**Secretaries of the Tennessee
Entomological Society (1991 - Present)**

<u>Secretary</u>	<u>Term</u>	<u>Affiliation</u>
Gary Lentz	'91 - '93	University of Tennessee
Gary Lentz	'93 - '02	University of Tennessee
Gene Burgess	'02 - '08	University of Tennessee
Steve Murphree	'08 - '12	Belmont University

**Treasurers of the Tennessee
Entomological Society (1991 - present)**

<u>Treasurer</u>	<u>Term</u>	<u>Affiliation</u>
Harvey Barton	'91 - '94	Arkansas State University
Harvey Barton	'94 - '97	Arkansas State University
Steve Powell	'97 - '02	TN Dept. of Agriculture
Steve Powell	'02 - '12	TN Dept. of Agriculture

**Editors of the Tennessee
Entomological Society (1991 - present)**

<u>Editor</u>	<u>Term</u>	<u>Affiliation</u>
Gray Haun	'91 - '99	TN Dept. of Agriculture
Lynn Snodderly	'00 - '01	TN Dept. of Agriculture
Gray Haun	'01 - '09	TN Dept. of Agriculture
Jerome Grant	'09 - '12	University of Tennessee

Board of Directors Members at Large

<u>Member</u>	<u>Term</u>	<u>Affiliation</u>
Gary Lentz	'87 - '88	University of Tennessee
Blake Bevill	'87 - '88	Arkansas State University
Michael E. Cooper	'88 - '89	TN Dept. Agriculture
Jay P. Avery	'88 - '89	University of Tennessee
Joe Dunn	'89 - '90	American Cyanamid Company
Charles Pless	'89 - '90	University of Tennessee
Paris Lambdin	'90 - '91	University of Tennessee
Jim Keener	'90 - '91	TN Dept. of Agriculture
Steve Powell	'91 - '92	TN Dept. of Agriculture
Lee Greer	'91 - '92	Valent
Alan Hopkins	'92 - '93	Miles, Inc.
Donald Ourth	'92 - '93	University of Memphis
Mark Carder	'93 - '94	University of Tennessee
Rich Emerson	'93 - '94	TN Dept. of Agriculture
Ray Nabors	'94 - '95	Univ. of Missouri
Alan Hopkins	'94 - '95	Miles, Inc.
Steve Powell	'95 - '96	TN Dept. of Agriculture
Jim Bogard	'95 - '96	TN Dept of Agriculture (Retired)
Hans Chaudhary	'96 - '97	TN Dept. of Agriculture
Cletus Youmans	'96 - '97	American Cyanamid
Larry Latson	'97 - '98	David Lipscomb University
Catharine Mannion	'97 - '98	TN State University
Karen Vail	'98 - '99	University of Tennessee
Roberto Pereira	'98 - '99	University of Tennessee
Jim Keener	'00 - '01	TN Dept. of Agriculture
Lee Greer	'00 - '01	Valent
Frank Hale	'01 - '02	University of Tennessee
Ray McDonnell	'01 - '02	TN Dept. of Agriculture
David Cook	'06 - '07	University of Tennessee
Steve Murphree	'06 - '07	Belmont University
Steve Hamilton	'07 - '08	Austin Peay State University
Clint Strohmeyer	'07 - '08	TN Division of Forestry
Gray Haun	'08 - '09	TN Dept. of Agriculture
Mike Studer	'08 - '09	TN Dept. of Agriculture
Steve Hamilton	'09 - '10	Austin Peay State University
Mike Studer	'09 - '10	TN Dept. of Agriculture
Steve Hamilton	'10 - '11	University of Tennessee
Mike Studer	'10 - '11	Austin Peay State University
David Cook	'11 - '12	University of Tennessee
Steve Hamilton	'11 - '12	Austin Peay State University

**Historians of the Tennessee
Entomological Society (1973 - Present)**

<u>Historian</u>	<u>Term</u>	<u>Affiliation</u>
Charles Pless	'73 - '76	Univ. of Tennessee
Herb Morgan	'76 - '79	USDA
Mendell Snodgrass	'79 - '82	USDA
Russ Patrick	'82 - '87	Univ. of Tennessee
Russ Patrick	'87 - '92	Univ. of Tennessee
Harry Williams	'92 - '01	Univ. of Tennessee (retired)
Frank Hale	'01 - '12	Univ. of Tennessee

**Honorary Members of the Tennessee
Entomological Society (1982 - Present)**

<u>Honorary Member</u>	<u>Year</u>	<u>Affiliation</u>
Jimmy White	1982	Tenn. Dept. of Agric.
Mendell Snodgrass	1983	USDA
Carl Brown	1985	Memphis State
Myrtice Snodgrass	1985	Knoxville, TN
John A. Hammett	1987	Tenn. Dept. of Agric.
Joe C. Dunn	1990	American Cyanamid
Harry Williams	1997	Univ. of TN (retired)

Harry E. Williams Award (est. 2002)

<u>Recipient</u>	<u>Year</u>	<u>Location</u>
Kim Woodard	2002	Trousdale Co., TN
Reed Avent	2006	Bolivar, TN
Phillip Adams	2009	Burns, TN
Jonathan Belcher	2010	Rutherford Co., TN
Kade Parker	2011	Maryville, TN
Kade Parker	2012	Maryville, TN

Howard Bruer Award (est. 1975)
Recipients of the Tennessee Entomological Society (1975 - Present)

<u>Recipient</u>	<u>Year</u>	<u>Location</u>
Whitney Eckler	1975	Memphis, TN
Joe Martin	1976	Bolivar, TN College
Bryan Peters	1977	Grove, TN Huron,
Tidus Pollard	1978	TN
John Bentley	1979	??
Melissa Hart	1980	Watertown, TN
Gary Miller	1981	Knoxville, TN
Harold Glass	1982	Knoxville, TN
-----	1983	(No award given)
-----	1984	(No award given)
Penny Thompson	1985	Davidson County
Matthew Fumich	1986	Munford, TN
Christie Greer	1987	Greene Co. Hamblen
Dottie Hodges	1988	Co.
-----	1989	(No award given)
Tim Gentry	1990	Woodbury, TN
Jennifer Hartsell	1991	Hamblen Co.
Jessica Taylor	1992	Lincoln Co.
Jennifer Lenter	1993	Fayetteville Co.
Jeremy Smith	1994	Savannah Co.
George Carroll	1995	Anderson Co.
Stacy Milhahn	1996	Lincoln Co
Nancy Warden	1997	Marshall Co.
Denise Byrum	1998	Moore Co. Shelby
James Johnson	1999	Co. Bolivar, TN
Wade Black	2000	??
Sara List	2006	Coffee Co.
Andy Brown	2008	Sevierville, TN Oak
Grant Fisher	2009	Ridge, TN
Julia Britto	2012	

**Outstanding Entomologist (Tennessee Entomologist of the Year)
Award (est. 1981) Recipients of the Tennessee
Entomological Society (1981 - Present)**

<u>Recipient</u>	<u>Year</u>	<u>Affiliation</u>
Myron Smith	1981	Hill Smith Pest Control
Harry Williams	1985	Univ. of Tennessee
John A. Hammett	1987	Tenn. Dept. of Agric.
Joe C. Dunn	1991	American Cyanamid

Richard E. Caron Outstanding Entomologist Award

<u>Recipient</u>	<u>Year</u>	<u>Affiliation</u>
Harry Williams	1995	Univ. of TN (Retired)
Harvey Barton	1996	Arkansas State Univ. (Retired)
Carroll Southards	1997	Univ. of TN (Retired)
Harold Bancroft	2001	Univ. of Memphis
Charles Pless	2002	Univ. of Tennessee (retired)
Gary Lentz	2008	Univ. of Tennessee (retired)
Reid Gerhardt	2009	Univ. of Tennessee (retired)
Gene Burgess	2011	Univ. of Tennessee (retired)

**Graduate Student Award (est. 1986) Recipients of the
Tennessee Entomological Society (1986 - Present)**

<u>Recipient</u>	<u>Year</u>	<u>Location</u>
Jay Avery	1986	Knoxville, TN
Laura Rogers	1987	Knoxville, TN
Jason Oliver	1988	Knoxville, TN
Steve D. Powell Robert	1989	Knoxville, TN
C. Brown Donald L.	1990	Knoxville, TN
Sudbrink, Jr. Deborah	1991	Knoxville, TN
Landau Deanna Colby	1992	Knoxville, TN
Lee Holt	1993	Knoxville, TN
Kenneth Copley	1994	Knoxville, TN
Dina Roberts	1995	Knoxville, TN
Bryan Hed	1996	Memphis, TN
Gary Moughler Andrew	1997	Knoxville, TN
Beld	1998	Knoxville, TN
Lacey McNally	1999	Nashville, TN
Ken Davenport	2000	Baton Rouge, LA
Debra Hoyme	2001	Clarksville, TN
	2002	Knoxville, TN

**Graduate Student Award (est. 1986) Recipients of the
Tennessee Entomological Society (1986 – Present) (continued)**

<u>Recipient</u>	<u>Year</u>	<u>Location</u>
Auora Teonnisson (1 st)	2006	University of Tennessee
Derek Bailey (2 nd)	2006	University of Tennessee
Eric Janson (1 st)	2007	Vanderbilt University
Carla Dilling (2 nd)	2007	University of Tennessee
Jonathan Willis (1 st)	2008	University of Tennessee
Greg Wiggins (2 nd)	2008	University of Tennessee
Robert Brucker (1 st)	2009	??
Paul Rhoades (2 nd)	2009	University of Tennessee
Abdul Hakeem (1 st)	2010	University of Tennessee
Keith Post (2 nd)	2010	University of Tennessee
Carla Coots (1 st)	2011	University of Tennessee
Angelina Fisher (2 nd)	2011	Austin Peay State University
Abdul Hakeem (1 st)	2012	University of Tennessee
Brittney Jones (2 nd)	2012	Austin Peay State University

CONSTITUTION
of the
TENNESSEE ENTOMOLOGICAL SOCIETY
(as of October 1991)

Article 1. Name

This Society is formed in the name and style of the "Tennessee Entomological Society", as an educational institution, not contemplating financial gain or profit. It is herein and after called the Society.

Article 2. Purpose

The purpose and object of the Society is to foster entomological accomplishment among its members and to promote the welfare of all of the State of Tennessee through the encouragement of: (1) the preparation, reading, and/or publication of papers, (2) association and free discussion among all members, (3) the dissemination of entomological information to the general public, and (4) cooperative efforts in statewide insect surveys.

Article 3. Membership

Section 1. Original Members: Any person designated at the organizational meeting of the Society to occupy the status of "Member" shall be considered as and be a Charter Member. Thereafter, the organizational membership shall have no authority to name or appoint members of the Society.

Section 2. Membership: Membership shall be open to all persons interested in Entomology.

Section 3. Sustaining Membership: Sustaining Membership is open to commercial or industrial organizations upon meeting approval and requirements of the Board of Directors.

Section 4. Honorary Membership: Honorary Members may be selected from time to time by a majority vote of the Board of Directors.

Section 5. Student Membership: Student Membership is open to students enrolled in any education institution and meeting the requirements of the Board of Directors.

Section 6. Procedure to Obtain Membership: Any person desiring to become a member of the Society shall do so by application and payment of dues to the Treasurer. After approval of the majority of the Board of Directors, said applicant shall become a duly constituted member.

Section 7. Members in Good Standing: A member who is current in payment of dues.

Article 4. Membership Rights

Section 1. Voting: Each member in good standing shall be entitled to one vote at any regular or special meeting or by mail. Voting by proxy shall not be allowed.

Section 2. Privileges: All members in good standing shall have equal privileges in the presentation of papers and discussions at meetings.

Article 5. Membership Certificates

Section 1. Certificates: The Board of Directors shall decide upon what evidence of membership each member in good standing shall be entitled to receive.

Section 2. Transfer: Evidence of membership in the Society will not be transferable or assignable.

Article 6. Dues

Section 1. Annual Dues: The amount of the annual dues for membership in the Society will be established by the Board of Directors from time to time. The use or uses of dues collected shall also be determined by the Board.

Section 2. Time of Payment: The Board of Directors shall set such times during each year as it deems advisable for the payment of annual dues by members. Generally, annual dues shall be paid during registration at the annual meetings. However, a member may mail dues to the Treasurer of the Society if the member cannot attend a given annual meeting. If a member fails to pay dues two (2) years in a row, such member shall be dropped from the rolls.

Section 3. Honorary Members: There shall be no dues required for Honorary Members or others specially designated by the Board of Directors.

Article 7. Meetings of the Society

Section 1. Annual Meetings: The Society shall hold annual meetings at such times and places as may be designated by the Board of Directors and specified in the notice thereof, for the election of officers and any other business as may be properly brought before the meeting.

Section 2. Registration Fee: A registration fee, in the amount to be determined by the Board of Directors, shall be paid at each annual meeting by all members and non-members who attend. The Board of Directors will determine the use of these fees.

Section 3. Special Meetings: Special meetings of the Society shall be held at any time and place as specified in the notice thereof whenever called by the President or any two (2) or more members of the Board of Directors.

Section 4. Notice: Notice of all meetings of the Society, annual or special, stating time, place, and agenda shall be mailed to each member by the President, Secretary, Treasurer, or Directors calling the meeting not less than seven (7) days prior to the meeting.

Article 8. Officers

Section 1. Officers: The officers of the Society shall consist of a President, President-elect, Secretary, Treasurer, Editor, and Historian, all of whom, except the President, shall be elected by and from the membership by a majority vote of members or by mail. The first President of the Society shall be elected by and from the membership at the organizational meeting for a term extending to the beginning of the first annual meeting. Thenceforth, the President-Elect shall automatically accede to the office of President at each annual meeting, or when the President is unable or unwilling to act for any reason. Nominees for each elective office of the Society shall be selected by a nominating committee of three (3) members appointed at the annual meeting by the President. Nominations may also be presented from the floor. The President and President-Elect shall hold office from the date of election at the annual meeting until the election of their successors at the next annual meeting, and shall not be eligible for re-election to the same office for a successive term. The Secretary, Treasurer, and Editor shall hold office from the date of election at the annual meeting until the election of a successor at the third following annual meeting and shall be eligible for re-election. The Historian shall hold office from the date of election at the annual meeting until the election of a successor at the fifth following annual meeting and shall be eligible for re-election. No member shall occupy more than one office at any one time.

Section 2. Duties and Powers of the President: The President shall be the Chief Executive Officer of the Society and shall preside at all meetings of the Society and the Board of Directors, have and exercise general and active management of the Society, execute and enforce all orders and resolutions and regulations duly adopted by the Board of Directors, execute all contracts in the name of the Society, and perform such other duties as assigned by the Board of Directors.

Section 3. Duties and Powers of the President-Elect: In the absence of the President, or in the case of failure to act, the President-Elect shall have all the powers of the President and shall perform such other duties as shall be imposed by the Board of Directors from time to time.

Section 4. Duties and Powers of the Secretary: The Secretary shall attend and keep the minutes of all meetings of the Board of Directors and the Society, shall have charge of the records and seal of the Society, and shall, in general, perform all the duties incident to the office of Secretary of the Society.

Section 5. Duties and Powers of the Treasurer: The Treasurer shall keep full and accurate accounts of the books of the Society and shall deposit all monies and the valuable properties and effects in the name of and to the credit of the Society in such depository or depositories as may be designated by the Board of Directors. The Treasurer shall disperse funds as may be ordered by the Board, getting proper receipts for such disbursements; and shall render to the Board of Directors whenever required by it, an accounting of all transactions as Treasurer. During each

annual meeting, the Treasurer shall give a report on the annual financial condition of the Society. The Treasurer shall, in general, perform all the duties incident to the office of Treasurer of the Society.

Section 6. Duties and Powers of the Editor: The Editor shall be a member of the Board of Directors and Chair of the Publication and Editorial Committee and be responsible for editing and publishing such publications as directed by the Board of Directors and passed by the majority of the voting membership at a called meeting.

Section 7. Duties and Powers of the Historian: The Historian shall maintain and be responsible for keeping a complete and accurate history of the activities of the Society from year to year.

Section 8. Vacancies in Office: Any vacancy in the office of President-Elect, Secretary, Treasurer, Editor, or Historian, however occasioned, may be filled, pending the election of a successor by the Society, by a majority vote of the remaining Directors. Should an office be filled by vote of the Board of Directors, the person so elected shall not become the officer upon the next annual meeting unless elected as such by the Society according to the procedures set forth for the election of officers of the Society in Article 8, Section 1, of this Constitution.

Article 9. Board of Directors

Section 1. Makeup and Responsibilities: The Board of Directors shall consist of the immediate past-President, the President, President-Elect, Secretary, Treasurer, Editor, and Historian of the Society and two members-at-large. The members-at-large shall be elected at the Annual Meeting of the Society and shall serve a term of one year. Any three (3) Directors shall constitute a quorum for the transaction of business. All properties, property rights, objects and purposes of the Society shall be managed, promoted, and regulated generally by the Board of Directors.

Section 2. Installation and Term of Office: The members of the Board of Directors shall be installed after their election as officers of the Society as set forth in Article 8, Section 1, of this Constitution, at the annual meeting of the Society, or at any adjourned meeting, or at any special meeting called for that purpose. All installed Directors shall serve for a term corresponding to that of the office in the Society to which each was elected by the members and thereafter until their successors are elected, accept office, and are installed.

Section 3. Annual Meetings: The Board of Directors shall meet immediately after the adjournment of the annual meeting of the members for the transaction of such business as may come before the Board. No notice of such meeting shall be required, and should a majority of the newly-elected Directors fail to be present, those present may adjourn, without further notice to a specified future time.

Section 4. Other Meetings: The Board of Directors shall not be required by this Constitution to hold regular meetings but may, by resolution or otherwise, establish such order of meetings as it

deems desirable. Special meetings of the Board shall be held at any time at such places as may be specified in the notice thereof, whenever called by the President or any two (2) or more Directors.

Section 5. Notice: Notice of all meetings of the Board of Directors, other than the annual meeting, starting time, place, and agenda for which the meeting was called, shall be given to each Director by the President or Directors calling the meeting not less than three (3) days prior to the meeting.

Section 6. Vacancies in Board of Directors: Any vacancy in the office of any Director, however occasioned, may be filled, pending the election of a successor by the Society, by a majority vote of the remaining Directors.

Article 10. Miscellaneous Provisions

Section 1. All checks and drafts shall be signed in such manner as the Board of Directors may from time to time determine.

Section 2. At all duly constituted meetings of the Society or Board of Directors of the Society, 10% of the eligible members, or 3 Directors, respectively, present shall constitute a quorum for the transaction of any business presented at such meetings.

Section 3. All notices required to be given by this Constitution relative to any regular or special meeting of the Society or the Board of Directors may be waived by the Directors or members entitled to such notice, either before or on the date of the meeting and shall be deemed equivalent thereto. Attendance at any meeting of the Society or the Board of Directors shall be deemed a waiver of notice thereof.

Section 4. General Prohibitions: Notwithstanding any provision of this Constitution and By-Laws which might be susceptible to a contrary construction. A. No part of the activities of the Society shall consist of carrying on propaganda, or otherwise attempting to influence legislation. B. This Society shall not participate in, or intervene in, (including the publishing or distribution of statements), any political campaign on behalf of a candidate for public office.

Article 11. Amendments

Section 1. This Constitution may be altered or amended or By-Laws adopted by a majority vote of the quorum present at any annual or special meeting of the Society membership, provided that notice of such proposed amendment or By-Laws shall have been given to the membership prior to the meeting.

OPERATING PROCEDURES OF THE TENNESSEE ENTOMOLOGICAL SOCIETY

The Tennessee Entomological Society (TES) is an organization formed for the purpose of fostering entomological accomplishment among its members and to promote the welfare of all of the State of Tennessee through the encouragement of: (1) the preparation, reading, and/or publication of papers, (2) association and free discussion among all members, (3) the dissemination of entomological information to the general public, and (4) cooperative efforts in statewide insect surveys. All necessary permanent records are maintained by person or persons designated by the Board of Directors and the President of the Organization.

Changes in Operating Procedures

The Constitution or By-laws may be altered or amended by a majority vote of the quorum present at any annual or special meeting of the Society membership, provided that notice of such proposed amendment or By-laws shall have been given to the membership prior to the meeting; the operating procedures of TES should be more flexible. The Constitution and Operating Procedures Committee is charged with the responsibility of studying these procedures each year to recommend possible improvements. Proposed changes in procedures are recommended to the Board of Directors for final action.

Registration and Dues

Registration and dues shall be set by majority vote of the Board of Directors. Dues for voting members will be collected by the membership committee at the time of the annual meeting.

The Board of Directors

The Board of Directors shall:

1. Consist of the immediate past-President, the President, President-Elect, Secretary, Treasurer, Editor, and Historian of the Society and two members-at-large.
2. Be responsible for management of the TES and conduct the affairs of the organization.
3. Conduct such business of the organization as is not delegated to the officers or committees and receive from the officers and committees reports and recommendations requiring specific board action or requiring recommendation for action by the membership.
4. Be responsible for changes in the manual of operating procedures after study and recommendation by the Constitution and Operating Procedures Committee.

5. Be responsible for transacting any official business.
6. Be responsible for assembling the board meetings.
7. Nominate honorary members to be voted on by membership.

President

The President shall:

1. Serve as Chairman of the Board of Directors, prepare an agenda for meetings of the Board of Directors and preside at such meetings.
2. Be responsible for determining that the decisions of the Board of Directors are correctly enforced within the framework of the organization's Constitution and By-laws.
3. Select chairman of committees at annual meeting and appoint committee members.
4. Serve as ex-officio member of all committees, maintain close liaison with the chairman of the committees, and encourage and assist them with development of program beneficial to the organization.
5. Work with the chairman of the program and local arrangements committees in planning the programs for annual meetings.
6. Preside at the general or introductory session of the annual meeting.
7. Advise all officers and board members on significant activities of the organization and solicit their suggestions.
8. Serve as the official representative for TES, when appropriate.

President-Elect

The President-Elect shall:

1. Perform the duties of the President if he cannot serve.
2. Serve as chairman of the program committee, and select the membership of that committee with the President and Board of Directors' approval.
3. Work with the Local Arrangements Chairman in the planning of all details of the annual meeting.

4. Prepare and mail announcements of the annual meeting. Assist with the printing of programs and mailing of programs.
5. Prepare and have the program of the annual meeting in print.
6. Be responsible for reminding speakers at each annual meeting to prepare papers before the meeting according to prescribed standards of the organization and to have these papers at the time of the presentation.

Secretary

The Secretary shall:

1. Have charge of the records and seal of the TES.
2. Take the minutes of all official business meetings of the association. Supply a copy of these minutes to the membership, Board of Directors and committee chairmen as necessary.
3. Consult with the President and inform all officers and board members of occurrences of any official meetings of the Board of Directors.
4. Maintain current lists of members and provide these along with the minutes of the annual business meeting to those persons with official need to know.
5. Make any mailing to the membership as needed or designated by the President or Board of Directors. Maintain a supply of the organizational supplies and letterhead paper for use by the officers.
6. Maintain a supply of operating procedures and provide copies to officers and board members and committee chairmen.
7. Serve as a member of the membership committee.

Editor

The Editor shall:

1. Chair the Publication and Editorial Committee.
2. Perform or be responsible for all editorial duties of the organization including the newsletter and any other publication of the organization.

Treasurer

The Treasurer shall:

1. Be responsible for the financial affairs of the TES. This includes depositing all

money received by the TES into appropriate Association accounts, handling the TES's money for maximum income (upon consultation with the Finance Committee), and paying of all expenses and invoices received by the TES.

2. Serve as a member of the Finance Committee.
3. Provide a written financial report to the Board of Directors at least annually, and for the published business meeting minutes. Make an oral financial report as the annual business meeting and at Board of Director meetings as necessary. Provide the necessary information for the Auditing Committee's activities.

Immediate Past-President

The Immediate Past-President shall:

1. Serve as a member of the Board of Directors during the year following his term of Presidency.

Committees

All committees and members of committees are selected by the President (or President-Elect). Each committee shall attempt to complete his/her assigned duties during the term of their appointment. The chairman of each committee shall solicit the assistance of his/her members as necessary. The standing committees are as follows:

Program Committee

The Program Committee shall:

1. Plan the general program format to fit the annual meeting time established by the general membership.
2. Contact invitational speakers and make arrangements for an honorarium, if appropriate.
3. Request papers from the general membership and establish a deadline for submittal of titles.
4. Prepare a program outline for printing.
5. Arrange to have chairpersons for each session.
6. Compile abstracts from program speakers for the proceedings of the program.

Local Arrangements Committee

The Local Arrangements Committee shall:

1. Be responsible for all physical arrangements for the Annual Meeting, working cooperatively with the Officers.
2. Reserve meeting rooms for estimated attendance at the Annual Meeting.
3. Specific Responsibilities will include:
 - a. Arranging for visual and audio equipment, including projectors.
 - b. Liaison with Treasurer regarding registration help, convention typewriters, etc.
 - c. Signs for sessions and activities; coordinate with Program Chairman.
 - d. Helping arrange transportation or lodging of guest speakers if needed; coordinate with Program Chairman.
 - e. Preparing a report of activities for inclusion in the minutes of the business meeting.
 - f. Approving all expenses incurred in conjunction with the Annual Meeting and forwarding invoices to the Treasurer for payment.
4. In addition to the above, be responsible for special functions carried out in conjunction with the Annual Meeting. This may include such special activities as coordinating exhibits at the Annual Meeting, as well as door prizes, with representatives of other organizations joining in this meeting, if desired. If necessary, the Local Arrangements Committee will be appointed with a sufficient number of members that these functions may be designated as the responsibilities of sub-committees of the overall committee.
5. Insure that sufficient facilities are available for morning and afternoon breaks.
6. A sponsored or dutch banquet and/or mixer could also be in order. Arrangements for banquet facilities, an after-dinner speaker and door prizes may be desired.

Membership Committee

The Membership Committee shall:

1. Encourage any interested person in Entomology to join our Society.

2. Send information about the Society to heads of Biology and Zoology Departments at all colleges and universities in the state, enclosing a few applications.
3. Encourage interested people of Pest Control organizations and other agricultural businesses to join the Society.
4. The Secretary shall send at least two blank membership applications to each member asking them to give to good prospects.
5. Each committee member should make a conscientious effort to enroll as many new members during the year as possible.
6. When notices of annual meetings are sent to major newspapers, television, and radio stations, an invitation to interested people could be given at that time.
7. The Chairman should coordinate this committee's efforts with the publicity and other committees when appropriate.
8. Collect dues at the annual meeting.

Auditing Committee

The Auditing Committee shall:

1. Review and certify the accuracy of the financial records and books of the Treasurer prior to the general business session of each Annual Meeting.
2. Conduct special audits as may be directed by the President or the Board of Directors.
3. Report any mistakes or misuses found by the committee to the President for appropriate action prior to the general business session.
4. Prepare a report of the committee's findings, with recommendations, for presentation at the general business session.

Nominating Committee

The Nominating Committee shall:

1. Present a slate of nominees from the active membership of the TES which will include a nominee for President-elect, and two nominees for members-at-large on the Board of Directors every year. The Secretary, Editor and Treasurer hold office for three years, and shall be eligible for re-election. In each case, it is suggested that the Nominating Committee present more than one nominee for each position.

2. Secure the prior approval of all nominees before their names are put before the membership.
3. Submit a written report to the Board of Directors consisting of current committee actions and suggestions for improvement.

Awards Committee

The Awards Committee shall:

1. Consist of 5-6 TES members including a Chair, who are selected following the business meeting of the annual meeting.
2. Obtain name(s) of state 4-H winner (level II), the entomology winner of the Mid-South Fair (Tennessee resident), or other outstanding young entomologist(s) and select the Howard Bruer Award recipient.^{1/}
3. Arrange to have a plaque made honoring the Howard Bruer Award recipient (contact TES treasurer) and deliver the plaque and news release information to the recipient's county agent for presentation/publicity at a later date.^{2/}
4. Obtain commitments from 3-5 TES members to serve as judges of the Student Paper Competition at the upcoming annual meeting (It is preferable that none of the judges have students in the competition).
5. Contact the TES Treasurer about preparing a \$50.00 check to be given to the Student Paper Competition winner during the business meeting of the annual meeting.
6. Have Student Paper Competition Evaluation Forms (with student names and presentation titles) ready for the judges the morning before the competition and assist in determining the winner following the competition.
7. Arrange to have a plaque made honoring the outgoing TES President (contact the TES Treasurer) and present it to him/her when asked by the new President during the business meeting of the annual meeting.^{2/}
8. Determine if it is appropriate to award the Richard E. Caron Outstanding Entomologist Award to a TES member at the upcoming annual meeting and submit for review by the Board of Directors. This award will be given periodically to individuals who have distinguished themselves by making outstanding contributions to entomology in Tennessee during their career. If a recipient is chosen, arrangements should be made to have a plaque made (contact the TES Treasurer) to be presented at the business meeting.^{2/}

^{1/}Contact Dr. John Skinner or Steve Hamilton at least one month prior to the annual meeting.

- ^{2/} Contact either Dr. Reid Gerhardt or Dr. Gary Lentz about having plaques made at least one month before the annual meeting.
9. Have a committee meeting immediately following the second paper session at the annual meeting.

Prediction, Evaluation Committee

The Prediction and Evaluation Committee shall:

1. List major agricultural commodities in Tennessee (Plant & Animal)
 - a. Approximate percent commodity loss due to various insect pests.
 - b. Approximate monetary loss due to each pest on various crops.
 - c. Approximate cost of control for each pest.
2. List insects which face a serious threat and crops which may be affected.
3. Major household, structural, and nuisance insects.
 - a. List major insects.
 - b. Approximate amount of money spent each year in control.
 - c. Approximate damage and loss from pest.

Constitution and Operating Procedures Committee

The Constitution and Operating Procedures Committee shall:

1. Annually review the Constitution and Operating Procedures and develop recommendations for improvements or needed changes and submit these to the Board of Directors for study and approval.
2. The Chairman of the Constitution Committee shall prepare adoption of amendments at any annual or special meeting.
3. The Chairman of the Constitution Committee shall coordinate with the Secretary in inserting such amendments into the notice and proceedings of the meeting.

Publication and Editorial Committee

The publication and Editorial Committee shall:

1. Determine and make recommendations to the Society of the type of publication suitable to the Society's needs and when such a publication should be initiated.
2. Set up guidelines and standards for such a publication, and investigate possible mechanisms for implementation upon decision of the organization.
3. Be responsible for soliciting and gathering of articles for publication.
4. Act as an editorial committee in screening such articles to be published.
5. The chairman will be responsible for the coordination of this committee's responsibilities with the Board, Secretary-Treasurer, and other committees as necessary.

Publicity Committee

The Publicity Committee shall:

1. Be responsible for developing and implementing an effective public relations program for the Tennessee Entomological Society.
2. Prepare general news releases on the society's activities and accomplishments and publicize the meetings. Specifically, these things should be done:
 - a. Prepare and release general news release as soon as Program Committee has planned a theme or area of interest for either meeting. Also, include location of meeting and time. This should begin by mid-summer and meeting dates should be sent to magazines and trade publications such as Delta Farm Press, Southeast Farm Press, Tennessee Market Bulletin, Ag Pesticide Notes, newspapers, etc.
 - b. A follow-up news release should be issued about one month before each meeting. Location of meeting, date, time, and outstanding invitational speakers could be mentioned.
 - c. Prepare follow-up news release after the meeting for use by news media.
 - d. Send notice to Entomological Society of America and other state societies.
3. Maintain close liaison with the Program Committee in obtaining early copies of the program of both meetings for publicity purposes.
4. Arrange for radio, television, and press coverage of society's meetings by contacting

area radio and TV stations just prior to the meetings and by calling the news rooms of local newspapers on the first day of the meetings.

5. Arrange for group photos of outgoing and in-coming officers and directors of the Association at the Annual meeting.
6. Prepare a report of the year's activities for the committee for presentation at the annual business meeting.
7. Post notices on the bulletin boards of the Entomology, Biology, and Zoology Departments in the colleges and universities across the state.
8. Direct mail to members.

1. Dates ('00), ('01) refer to last meeting attendance or last dues payment.
(\$5.00 Regular, \$1.00 Student, \$25.00 Sustaining/Corporate).

2. H = Honorary Member

TENNESSEE ENTOMOLOGICAL SOCIETY

MEMBERSHIP LIST

OCTOBER 2012

***THE MEMBERSHIP LIST
IS NOT AVAILABLE.***

**For information on members,
please contact the Secretary
of the Tennessee Entomological Society.**

**Application for Membership in the
TENNESSEE ENTOMOLOGICAL SOCIETY**

I (we), herewith, submit this application for membership in the Tennessee Entomological Society. Society pins are available to members for \$10.00.

PLEASE PRINT

Name of Prospective Member _____

Affiliation _____

Address _____ Zip Code _____

Phone Number Area Code () _____

FAX Number Area Code () _____

email address _____

Occupation _____

Please Check

Annual Dues **\$5.00**

Annual Due for Students **\$1.00**

Sustaining Member Dues **\$25.00**

Amount Enclosed _ _____

Please Remit to:

**Steve Powell
Tennessee Department of Agriculture
Regulatory Services
Plant Certification
Nashville, TN
Steve.Powell@tn.gov**

All checks should be made payable to the Tennessee Entomological Society.