

Minutes of the 2016 Annual Meeting of the Georgia Entomological Society

Executive Committee Meeting Minutes

April 06, 2016. Callaway Gardens, Pine Mountain, GA

Attending: Will Hudson (President), Scott Horn (Past-President), Stan Diffie (Secretary-Treasurer), Mike Toews (President-Elect), David Riley (2017 Site Selection), Wayne Gardner (JES), and Nancy Hinkle (Historian).

Awards & Recognition (Scott Horn on behalf of David Riley) –The committee selected Ray Noblet as the 2016 Founder. Wayne Gardner will present the Founder’s Lecture and present the plaque.

Membership Committee (Stan Diffie)—Approximately 280 members are currently on the roll and 40% paid dues or attended the meeting in 2015. In conjunction with the launch of the journal on-line, the annual membership will run from July 1 to June 30.

Nominations Committee Report (Nancy Hinkle) – The committee asked Ed Mondor and Dan Suiter to run for President-Elect. Ballots will be distributed during the luncheon.

Program Committee (Mike Toews) –One change in the program—Lance Durden will present at 4:20 pm on Thursday and the last paper of the day will follow. Wayne Gardner will open the morning session with an update on the Journal of Entomology. The industry panel currently has four speakers but others may join. For the opening symposium, Mike Toews invited Clint Penick, a graduate student from NCSU, and Doug Summerford, a researcher from Monsanto. Mike asked about reimbursing travel expenses for these two speakers (approximately \$800). The committee voted to reimburse the speakers for their expenses. The number of papers submitted this year is down from previous years possibly due to Lund Week and USDA budget concerns. A total of 12 student papers were submitted compared to 17 last year. There were 5 student posters and 4 contributed posters submitted and authors will stand beside their poster during the afternoon break.

Local Arrangements Report – The projection equipment will have to be moved from the meeting room to the luncheon room and back. Registration was held in the hotel lobby from 4-6 pm. Registration on Thursday and Friday will be held outside the meeting room. Lunch will be held in the room next door to the meeting room. The Photo Salon will be held during the luncheon, and student awards will be announced at the end of the afternoon session.

Meeting Registration (Stan Diffie)— Twenty-nine regular members pre-registered for the meeting along with 11 students and 3 emeritus members.

Financial Report (Stan Diffie) – The financial report for 2015 was presented (attached). The audit committee had reviewed the books and had approved such. There was a \$800 profit last year. As of

April 1, \$5700 in income has been collected in 2016. Callaway is a more expensive venue, so the society may lose money this year.

Journal of Entomological Science Annual Report (Wayne Gardner)—The on-line soft launch occurred the first week of January. Currently, there are past issues from 2009-2015 available on-line. Costs increased expectedly this past year due to the transition to Allen Press. The journal is on BioOne which increases visibility. When the journal goes on-line it will be available to members only at gaentsoc.com. Access will be available to non-members through libraries, but articles may be limited to abstracts only. The on-line presence should increase the number of submissions.

Site Selection (David Riley) – David suggested returning to Villas by the Sea and presented 2 dates—April 5-7 and April 12-14.

Final Business Meeting Minutes

April 06, 2016. Callaway Gardens, Pine Mountain, GA

Will Hudson presided over the Final Business Meeting of the 80th annual GES meeting. Will acknowledged the work Mike Toews and Marianne Shockley did to make this meeting a success.

The reading of the 2015 Minutes was waived by a motion from Nancy Hinkle and second by Michael Toews.

Audit Committee (Stormy Sparks) – Stormy was not present so Will Hudson accepted the audit report (attached).

Secretary/Treasurers Report (Stan Diffie) – The financial report covering activity in 2015 (attached) was distributed and discussed. Stan Diffie reported an operating surplus for 2015, the second year in a row of operating in the black. Nancy Hinkle pointed out the support we receive from industry and Mike Toews suggested we include the industry support on the GES webpage. Nancy then made a motion to accept the report and David Buntin seconded the motion.

Insect Survey (Mark Abney) – Mark reported on the completion of the 2015 Arthropod Report. The report will be on the webpage in the near future.

Fishing Tournament (Will Hudson) – The inaugural fishing tournament was a rousing success as 10 people competed to catch the largest amount of fish. Phillip Roberts won with over 11' of fish. Ash Sial objected because of a Tifton bias. Will Hudson assured him it would be different next year.

Fun Run (John All) – Eighteen people enjoyed the Fun Run from the Mountain Inn to the Day Butterfly house and back. Joni Blount finished first again for the third year in a row with a time of 26:06. John All was not injured in the bicycle tumble.

Site Selection (David Riley) – David presented the option of returning to Villa by the Sea with two suggested dates—April 5-7 or April 12-14. Because Easter falls on April 16, 2017, it was suggested that we do not try to meet that week. April 5-7 was chosen by a show of hands. David Riley made a motion and Frank French seconded it that we meet April 5-7, 2017 at Villas by the Sea on Jekyll Island. Ed Mondor asked about a joint meeting with the South Carolina Entomological Society. Discussion centered on the venue size—Villas by the Sea may be too small to accommodate both groups. Ed made a motion that we look into inviting them in 2018 and David Riley seconded the motion.

Snapp Award – The Snapp Award, for best presentation by a regular member, was presented by Will Hudson to Ed Mondor.

Nominations Committee (Nancy Hinkle) – the nominees for President-elect were Dan Suiter and Ed Mondor. Ballots were distributed at the luncheon on Thursday. Votes were tabulated and Dan Suiter received the most votes.

Journal of Entomological Science (David Buntin) – Wayne Gardner covered most of the information during his presentation on Thursday. David encouraged everyone to submit papers to the JES. Paper copies will still be used for a while but will be phased out over time. The cost for paper copies is \$30,000 compared to \$12,000 for on-line. Wayne Gardner's efforts in this lengthy process were noted. David said the impact factor for going to an on-line journal should increase from 0.6 to 1.5 immediately.

Resolutions (Mark Abney) – the resolutions (attached) were read.

Necrologist Report (Will Hudson)—no one knew of any members or former members who had passed away in 2015.

Will Hudson passed the President's gavel to Mike Toews.

Mike Toews presented Will Hudson a plaque in gratitude for his service as GES President.

Meeting was adjourned.

GES Financial Report for period from Dec. 31, 2013 through Dec. 31, 2015

Assets	Dec. 31, 2013	Dec. 31, 2014	Dec. 31, 2015
Checking	53201.45	45004.39	37434.36
Pay Pal	5340.57	14149.60	22553.21
Total	58542.02	59153.99	59987.57

Income

Registration and Dues	6466.00	9685.00	9145.00
Meeting Sponsors	2100.00	2000.00	1950.00
Total	8566.00	11685.00	11095.00

Expenses

Incorporation Fee	30.00	30.00	30.00
Bank checks	0.00	23.25	0.00
Bank account analysis fees	114.70	121.44	127.10
PayPal fees	186.91	295.97	281.39
JES	2500.00	2500.00	2500.00
2014 Meeting Expenses			
Conference Center		4245.20	3803.66
Supplies		599.20	972.59
Plaques		662.17	588.20
T-Shirts		320.80	343.20
Scholarships		1000.00	1000.00
Awards		775.00	775.00
Total		10573.03	10421.14
2015 Conference deposit		500.00	

Current Assets (04/01/16)

South Georgia Bank	37724.03
PayPal	27491.15
Total	65215.18

**Report of the Audit Committee
Georgia Entomological Society**

The Audit Committee met with Stan Diffie, the GES Secretary-Treasurer, on April 1, 2016, to review the GES financial records for 2015. The Secretary-Treasurer provided bank issued monthly statements and a summary of PayPal transactions for the period covering January 1, 2015 through December 31, 2015. He also provided copies of receipts for non-award payments (business expenses) and a summary of assets, income and expenses for the period in question.

After review of these materials, we found the books of the Society to be in good order. In addition we examined and approved the one page summary of assets, income and expenses that will be distributed at the GES business meeting.

Alton N. Sparks, Jr.

Babu Srinivasan

**Report of the GES Resolutions Committee
April 10, 2015**

Whereas, the 79th Annual Meeting of the Georgia Entomological Society was convened April 8th, 2015 at the Villas by the Sea Resort at Jekyll Island, Georgia; and

Whereas, President Scott Horn, through dedicated hard work, organized and directed the Georgia Entomological Society during 2014-2015, and provided superb leadership for the 2015 Annual Meeting; and

Whereas, Will Hudson presented an excellent lecture to honor James D. Dutcher as the 2015 GES Founder Honoree; and

Whereas, Michael Ulyshen provided personal and heartfelt recognition of James L. Hanula, who was inducted as a Fellow of the Georgia Entomological Society; and

Whereas, Ed Mondor and the Local Arrangements Committee prepared an excellent foundation for holding the meeting; and

Whereas, President-Elect Will Hudson organized an excellent paper and poster session, and coordinated an interesting and informative symposium on "Biting Flies in Georgia" presented by Stacey Vigil, Daniel Hagan, Mark Blackmore, Elmer Gray and Joseph Iburg; and

Whereas, the industry sponsors, Amvac Chemical Corporation, Arysta LifeScience, Bayer CropSciences, Dow AgroSciences, Dupont Crop Protection, Nichino America, Syngenta Crop Protection, and United Phosphorus Limited generously provided refreshments during the 2015 Annual Meeting; and

Whereas, the membership of the Georgia Entomological Society is so dedicated to their profession and diligent meeting preparations that not a single one of them made time in to play golf at the historic Jekyll Island Golf Club; and

Whereas, the membership of the Georgia Entomological Society was so riveted by the scientific presentations that not even the lure of the beach on a sunny day could pull them away from the meeting; and

Whereas, the heating, venting and air conditioning system in the lecture hall blew loud and relentless throughout the entire meeting;

Be it therefore resolved that the Georgia Entomological Society extend its sincere appreciation and thank you to all who have contributed to the success and enjoyment of the 79th Annual Meeting.

Respectfully submitted,


Michael Toews, Chair


Mark Abney, Member

JOURNAL OF ENTOMOLOGICAL SCIENCE

2015 ANNUAL REPORT

Volume 50 of the *Journal of Entomological Science* marked the 50th anniversary of the publication. This was the first volume published in cooperation with Allen Press (Manhattan, Kansas) as we positioned the *Journal* as an online offering. The volume was published in 4 quarterly issues. There were 366 total pages in the volume (23 scientific articles, 10 scientific notes, and 1 correction. For those 34 manuscripts published in volume 50, the average time from receipt of the manuscript to action taken on acceptance was 91 days (See Table 1 for summary data by volume from 2002 through 2015). Cover photos for each of the issues were provided by David A. McKinney (no. 1), Brian A. Little (no. 2), Nancy Miorelli (no. 3), and Lisa Ames (no. 4). These were selected from among the entries in the 2014 and 2015 GES Photo Salons.

During 2015, 45 manuscripts were submitted for publication in the *Journal*. The acceptance rate was 81%. A summary by year of total submissions, acceptance rate, and journal account balances and net income for 2002 through 2015 is shown Table 2.

Susan Thornhill, Business Manager, reported a balance of \$27,237.43 in the *Journal* account at Regions Bank (Griffin, GA) as of 29 February 2016. Her report of the deposits, disbursements, and balances for the fiscal year is in Table 3.

Respectfully submitted this 5th Day of April 2016,



Wayne A. Gardner, Editor

Table 1. Comparative summary report for *Journal of Entomological Science* of the number of papers published, total number of pages printed, and the average time from receipt of the papers to acceptance for volumes 37 (2002) through volume 50 (2015).

Volume	Year	Scientific Articles	Scientific Notes	Total Articles	Total Pages	Time to Acceptance
37	2002	36	17	53	386	113 d
38	2003	62	17	79	720	141 d
39	2004	56	25	81	686	109 d
40	2005	47	14	61	484	89 d
41	2006	34	20	54	420	79 d
42	2007	51	18	69	622	81 d
43	2008	34	17	51	459	87 d
44	2009	35	11	46	420	79 d
45	2010	33	12	45	402	106 d
46	2011	31	10	41	348	84 d
47	2012	31	13	44	384	90 d
48	2013	32	11	43	364	80 d
49	2014	31	15	46	424	83 d
50	2015	23	10	34	366	91 d

Table 2. Comparative summary report for *Journal of Entomological Science* manuscript submissions, acceptance rates, ending account balances, and net income by year for 2002 through 2015.

Year	Total Submitted	Accept Rate	Ending Balance	Net Income
2002	87	88%	\$20,518.10	(-) \$9,052.87
2003	89	90%	\$35,642.92	\$15,124.82
2004	67	80%	\$45,294.10	\$9,651.18
2005	68	91%	\$38,985.10	(-) \$6,309.00
2006	85	90%	\$49,758.36	\$10,773.26
2007	61	85%	\$53,353.91	\$3,595.55
2008	43	93%	\$51,853.43	\$1,500.48
2009	54	85%	\$57,339.04	\$5,485.61
2010	47	87%	\$51,416.61	(-) \$5,922.43
2011	53	85%	\$49,629.66	(-) \$1,786.95
2012	58	80%	\$45,789.26	(-) \$3,840.40
2013	45	85%	\$40,461.84	(-) \$5,327.42
2014	41	83%	\$39,982.94	(-) \$478.90
2015	45	81%	\$27,237.43	(-) \$12,745.51

Table 3. Summary report of *Journal of Entomological Science* account with deposits, disbursements, and beginning and ending balances, 1 March 2015 through 29 February 2016.

Beginning Balance [3/1/2015]	\$39,982.94
Deposits (+)	25,446.38
Disbursements (-)	38,191.89
Ending Balance [2/28/2014]	\$27,237.43
Deposits	
Library Subscriptions	\$4,160.00
Publication and ePrint Charges	\$20,102.25
Royalties	\$1,184.13
Total Deposits	\$25,446.38
Disbursements	
Publication Printing & Mailing	\$29,359.85
VISA/MC/Discover Fees	\$1,174.24
Bank Fees	\$36.00
Online Publication Costs	\$7,621.80
Total Disbursements	\$38,191.89

Award Winners
Georgia Entomological Society Annual Meeting
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The following awards were presented at the 80th GES Annual Meeting:

Founder Honoree: Ray Noblet
Founder's Lecture: Wayne Gardner
Fellow Honoree:

GES PhD Scholarship: Tommy McElrath

GES MS Scholarship:

T.L. Bissell Award (MS and BS oral presentations):

First Place: Benjamin Gochnour
Second Place: Trey Portier
Third Place: Joshua Grant

C.M. Beckham Award (PhD oral presentations):

First Place: Pin-Chu Lai
Second Place (tie): Joni Blount and Ian Knight

U.E. Brady Award (Student poster presentation):

First Place: Joseph Disi
Second Place: Christian Anes
Third Place: Auburn Diffie

O.I. Snapp Award (Non-student oral presentation)

Winner: Ed Mondor

Photo Salon Winners
Georgia Entomological Society Annual Meeting
April 8-10, 2015, Villa by the Sea, Jekyll Island, Georgia

Biology Category:

First Place: Brian Little
Second Place: Wendy Marchant
Third Place: Benjamin Gochnour

Microscope Category:

First Place: Brent Phelan

Portrait Category:

First Place: Joshua Grant
Second Place: Alan Harvey
Third Place: Dan Hagan

Sequence Category:

First Place: Dan Hagan

Sturgis McKeever Award Best of Show Winner: Joshua Grant

Peoples' Choice Award: Wendy Marchant

2015 Georgia Entomological Society
Arthropod Survey

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Contributors: Mark Abney (peanut), G. David Buntin (corn, sorghum, wheat), Nancy Hinkle (livestock, poultry and pets), Dan Horton (apple, peach), William Hudson (pasture and hay fields, pecan), David Riley (vegetables), Phillip Roberts (cotton, soybean), Ash Sial (blueberry) Alton Sparks (vegetables), Daniel Suiter (urban and structural)

Apple

Apple insect and mite IPM in GA has for several years been quite stable. Jim Walgenbach at NCSU continues to provide the research base for extension apple arthropod IPM programs at UGA and other southeastern landgrant institutions. Resistance problems with codling moth (CM, *Cydia pomonella*) and Oriental fruit moth (OFM, *Grapholita molesta*), both key fruit-attacking pests, are evident but continue to be seen as slowly unfolding, farm-specific processes. In most GA apple orchards insecticide applications timed by temperature-driven developmental models still provide excellent control of OFM, CM and tufted apple budmoth (*Platynota idaeusalis*) our key complex of fruit feeding lepidopterons. That said, significant GA apple acreage exhibits signs of resistance to phosmet (Imidan), methoxyfenozide (Intrepid) and/or novaluron (Rimon). Fortunately orchards experiencing declining insecticide performance have gotten good to excellent CM/OFM control with pheromonal mating disruption.

Brown marmorated stink bug is readily evident in GA's mountain counties, but to date has not been problematic in apples, peaches, strawberries or vegetables.

Woolly apple aphid (WAA, *Eriosoma lanigerum*) had been well controlled in GA apples for at least 30 years, but in recent years it became very problematic in isolated blocks. Use of spinetoram (Delegate), especially in early- or mid-season has been closely tied to WAA outbreaks in GA, likely as a result of this compound's non-target impact on the WAA parasitoid *Aphelinus mali*. In this case work by Betsy Beers, WSU, translated very well to southeastern apples. Elimination of spinetoram use, or restricting its use to late-season, seems to be allowing re-establishment of WAA biocontrol in GA apples, WAA infestations have receded to almost pre-spinetoram levels.

Blueberry

Since its first detection in the state of Georgia in 2011, spotted wing drosophila (SWD) remains the key pest of blueberries. However, as a result of the research and extension efforts of UGA Blueberry Entomology program aimed at educating blueberry growers, crop losses were significantly lower during 2015 than any of the previous years since 2011. On average, SWD management costs around \$100-150 per acre to blueberry growers.

Due to multiple applications of primarily broad-spectrum insecticides (OPs and pyrethroids) to control SWD, there has been a significant increase in secondary pest problems with scales being the most serious concern. Other secondary pests reported during 2015 include aphids, flower thrips, blueberry gall midges, and bud mites. This year a significant proportion of the blueberry acreage was treated with 1-2 insecticide applications to control these secondary insect pests. Unfortunately, the secondary pest problems will most likely get worse until alternative control strategies for SWD are developed.

Corn

Corn acreage in Georgia was 265,000 acres in 2015 which is lower than 2014 due to wet conditions at planting and lower commodity prices. Average grain yield was 180 bu/acre, but many irrigated fields yielded 250-300 bu/acre. All corn seed is treated with a neonicotinoid insecticide so soil insect damage was low. Very low infestations of stink bugs occurred in 2015, although preventive sprays were still used widely. Fall armyworm whorl infestations were very low and no treatments were needed. Corn

earworm infestations were low to moderate in on-time planted corn, but increased to damaging levels in late-planted corn. Bt corn adoption is about 75% in the state. Cost of Bt technology was about \$16 to \$28 per acre depending on trait package. Southern rust levels were high requiring one or more fungicide applications.

Cotton

Seedling thrips and stink bugs continued to be the primary insect pests infesting cotton during 2015. Average insecticide applications were 2.5 per acre, average yield loss was 2.6 percent per acre, and the total losses plus control costs were \$69 per acre. Thrips infestations were relatively normal, moderate to high infestations were observed on cotton planted in April and early May and much lower infestations were observed in late May and June plantings. Neonicotinoid seed treatments (NSTs) are the industry standard for preventive thrips control. Historically NSTs require a supplemental foliar spray when infestations are high and this continued in 2015. Based on declining performance of NSTs in other parts of the US, we participated in monitoring program to bioassay thrips susceptibility to NSTs. In total 8 populations were bioassayed in 2014 and 2015, and 50 percent of those populations were classified as resistant to NSTs. We continue to see thrips activity in the field but have observed more variability in performance. We will continue to monitor this closely. During recent years we have seen an increase in tarnished plant bug populations. Approximately 12 percent of the acreage was treated for tarnished plant bug during 2015. This is a disturbing trend especially since plant bug sprays are typically made early to mid-season when disruption of beneficial insects can have more detrimental effects to the system compared with late season sprays for stink bugs. As in previous years, the most common insect pest treated in cotton was stink bugs. Other pests observed included Heliethines, cotton aphids, and spider mites.

Livestock, Poultry, and Pets

Beef cattle

Nationwide, Georgia ranks 30th in cattle production, with just over a million head produced annually, amounting to a farm gate value of over a billion dollars. Horn flies are the main pest of pastured cattle, causing irritation and aggravation to cattle because of their blood-feeding habit. Statewide, annual losses to horn flies on Georgia cow-calf operations are over \$10 million. Horn fly suppression is dependent on insecticides, although there are few options that effectively reduce horn fly numbers for more than a few days. Stable flies, the other bloodsucking fly attacking cattle, account for over \$15 million in losses for Georgia cattle herds. To control horn flies and stable flies (as well as other ectoparasites such as face flies, lice, etc.), Georgia cattlemen invest ca. \$5.7 million annually.

Broilers

Georgia continues to be the nation's number 1 broiler producing state. Broilers rank at the top of Georgia's agricultural commodities, bringing in \$4.5 billion annually, or 32% of the state's farm gate value.

Worldwide, darkling beetles (*Alphitobius diaperinus*), whose larvae are known as lesser mealworms, are the primary pest of broiler production. These insects burrow into wooden building structures and

insulation to pupate, damaging facilities and lowering insulative capacity. Costs of repairs and insulation replacement increase production costs. When litter is removed and applied to pastures or fields as soil amendment, beetles are distributed and may migrate to nearby homes, creating neighborhood friction. Lesser mealworms feed on dead birds and feces, thereby acquiring numerous pathogens which they can transfer to uninfected birds when consumed. They also maintain Salmonella in their guts during pupation, so that newly emerged adult beetles are infectious to chickens. Alphitobius populations worldwide have been shown resistant to most of the pesticides registered for their suppression, so management strategies are extremely limited. Suppression efforts have some effect on beetle numbers, but there are no tactics that significantly reduce beetle populations.

All Georgia broiler houses are infested with darkling beetles and broiler producers spend approximately \$7.2 million annually for Alphitobius suppression. Losses to the beetles are estimated at \$3.5 million annually, for a total cost of lost production and control ca. \$10.5 million annually in the state.

Caged Layers

Table eggs are Georgia's 4th most lucrative commodity, with an annual value to the state of over \$798 million (ranking Georgia 7th nationally). The principal pest in caged layer houses is the house fly, which causes spotting of eggs, degradation of equipment through fecal contamination, and neighborhood consternation when flies migrate away from the poultry farm to nearby residences. Because of suitable conditions inside layer houses, house flies can be a year-round problem. Producers use manure and water management, trapping, biological control (fly parasitoids), and various pesticides to suppress house flies around caged layer operations. Worldwide, house flies have been shown resistant to most insecticides, so control is seldom adequate. Losses due to flies combined with costs of management are estimated to total \$6.97 million annually.

Northern fowl mites are the second most significant pest in layer flocks. These mites are bloodsuckers that spend their entire life cycle on the chicken host, causing itching, scabbing, anemia, and general bird discomfort and lack of thriftiness. Losses due to reduced feed conversion efficiency and reduced egg production are estimated at \$1.75 million annually, while suppression costs (primarily acaricides) are about \$1.7 million per year, totally \$3.45 million statewide annually.

Pets

Approximately 3.5 million Georgia households have dogs and cats. The three major arthropod pests affecting pets are fleas, ticks, and mosquitoes. Because fleas transmit tapeworms, ticks transmit pathogens such as Ehrlichia, and mosquitoes carry heartworm, pest treatments and disease preventatives amount to over \$128 million annually.

Pasture and hay fields

Bermudagrass stem maggot (BSM) was a problem for growers producing hay for the horse market in August and September, with many fields receiving a pyrethroid application (or 2). Army worm pressure was relatively light but some fields were sprayed. Overall, the insect situation was less severe for most growers than is usual.

Peach

Pest pressure from fruit-attacking insect pests [plum curculio (*Conotrachelus nenuphar*), assorted stink bugs, green June beetles] in peach orchards across GA & SC was light to moderate in 2015. Premature tree decline associated with scale, lesser peachtree borer and peachtree borer continues to cause serious losses. Cover sprays do little to control/suppress these key tree pests. Scale in particular are increasingly damaging. Scale control is very demanding but doable with rigorous application of dormant oils, followed by block-specific responses to scale through October. Every acre needs to receive two dormant, dilute oil applications (200 gals/acre) applied at a low tractor speed (2-3 mph). Prompt, aggressive, often multi-step follow ups are required where ever control breaks are observed. Lesser peachtree borer control is stable where dilute, pre-bloom chlorpyrifos sprays are complimented by cover sprays and post-harvest chlorpyrifos. Peachtree borer infestations are worsening. Peachtree borer populations (univoltine) are now showing the same upward population trends previously seen with the multivoltine lesser peachtree borer. Utilization of safer, but less effective, organophosphate-replacement cover sprays for the past 15+ years appears to be the key element in the emergence of these previously well-controlled species as primary tree-killing pests.

Pheromonal mating disruption of peachtree & lesser peachtree borers is effective in the Mid-Atlantic and Upper Mid-Western peach production areas, but this technology has struggled or failed with our higher pest abundance, and longer, warmer growing seasons. Cottrell et al. have worked for years to adapt mating disruption to the southeastern lesser peachtree borer/peachtree borer complex. There is optimism that Shin-Etsu's newest dispensers will last long enough to work under our conditions. In late winter of 2015 Cottrell initiated an 800+ acre, on-farm lesser peachtree borer/peachtree borer mating disruption trial in central GA. Preliminary evaluations of this multi-year, area-wide study are very promising.

A sap beetle (*Carpophilus* spp.)/picnic beetle (*Glischrochilus* spp.) complex has emerged in recent years as an occasional, but where severe, damaging and difficult to control pest of sound, ripening mid- and late-season peaches. Problems seem to be more severe in wet years. Support from the South Carolina Peach Council has facilitated preliminary work on insecticide bioassays, survey and implementation of sap beetle pheromone trap-and-kill technology used on stone fruit in Western Australia. Initial trap-and-kill trials showed promise. Work examining the potential effect of orchard floor sanitation will begin in 2015.

Peanut

The 2015 peanut crop in Georgia experienced its fair share of insect and mite pressure, though the pests and the intensity of infestations varied by region and field. Tobacco thrips, *Frankliniella fusca*, were present in most fields in 2015. Thrips pressure was described as moderate to heavy in many areas, though reports of damage were not as widespread as in 2013 or 2014. Most growers used at plant insecticides to manage thrips infestations on peanut in 2015. Granular phorate, liquid imidacloprid, and thiamethoxam seed treatment were the most commonly used insecticides.

Some lesser cornstalk borer, *Elasmopalpus lignosellus*, activity was observed in the crop in early June, but populations generally either disappeared or remained below economic threshold. Rainfall was

adequate for peanut production in non-irrigated fields for much of the growing season. Nevertheless, damaging populations of two-spotted spider mite, *Tetranychus urticae*, did occur in a number of fields across the state in August where moisture was lacking. The peanut burrower bug, *Pangeaus bilineatus*, is favored by dry soil conditions, and while damage was reported in 2015, losses were not as great as in 2014.

Foliage feeding caterpillars were abundant in many counties, but population density and species composition varied from field to field. Velvetbean caterpillar (VBC), *Anticarsia gemmatilis*, and soybean looper (SBL), *Chrysodeixis includens*, were the two most common lepidopteran pests in 2015. Velvetbean caterpillar was observed from June until October, and numbers were very high in some fields. Growers were able to control VBC populations effectively with pyrethroids. Control of SBL was occasionally problematic in 2015. High temperatures and rank vine growth combined with high sprayer speeds, low application volumes, and high boom heights resulted in poor insecticide coverage in many fields.

Garden fleahopper (GFH), *Halticus bractatus*, was observed in Georgia peanut in late summer in 2014 and 2015. The insect's feeding results in stippling of the leaves much like that caused by spider mites. Though not reported as a pest of peanut in the literature, some fields experienced significant leaf drop due to GFH feeding in 2015 and were treated with an insecticide. Anecdotal reports indicated that pyrethroid insecticides provided fair to good control, but that rapid re-infestation of treated areas was common.

Georgia's overall peanut yield was excellent in 2015; the state-wide average was reported to be 4400 pounds per acre. Quality was generally good, though harvest season rainfall contributed to an increase in "segregation 2" grades. No official distinction is made in tonnage reports, but weather related grade reduction should not be confused with reductions caused by insect damage.

Pecan

Ambrosia beetle losses in the spring were significant, with some growers losing up to 25% of newly planted trees. Most new plantings (less than 3 years old) received 1-3 applications of a pyrethroid insecticide during the spring green-up period. Crop quality was affected severely by weather in the fall, during the critical nut filling period. Extended periods of cloudy weather and warmer than usual temperatures during the pre-harvest time resulted in kernel rot and premature sprouting. Late season aphid populations required treatment, but overall insect pressure during the growing season was a little less severe than usual.

Sorghum

Sorghum acreage in 2015 was 34,000 acres for grain production and 12,000 acres for forage/silage production. Sugarcane aphid (SCA) infestations were first detected in late April in southern GA and throughout the state by the end of June. SCA occurred on about every acre of sorghum. A Section 18 emergency use exception was obtained for use of Transform WG on sorghum for SCA control with a maximum of two applications per season. Almost all acres were treated 2 to 4 times with either Transform WG or Sivanto 200SL. Some field also were treated with chlorpyrifos (Lorsban Advanced,

Nufos etc) @ 2 pints per acre before flowering because of a 60 day preharvest interval. Estimated cost of insecticide application for sugarcane aphid control was about \$5,370,000 for product alone which does not include additional application costs. About 10% of field were severely damaged and abandoned. Sorghum midge occurred in late planted fields and was controlled with tank mix of a pyrethroid plus Transform insecticide. Some later planted fields were treated for fall armyworm in the whorl or headworms (fall armyworm, corn earworm and/or sorghum webworm) on the grain heads. No insecticides are labeled use for SCA control on sweet sorghum. Most sweet sorghum fields were completely destroyed by SCA.

Soybean

Foliage feeding insects, primarily soybean looper (SBL) and velvetbean caterpillar (VBC), were the primary pests of soybeans during 2015. Both SBL and VBC were first observed in mid-July, which is earlier than normal, and built to economic levels in many fields. VBC was relatively easily and economically controlled with foliar insecticides. However, control of SBL was more challenging. Diamide insecticides are commonly used for control of SBL and grower expectation is high since these products are premium priced. In some areas growers were not satisfied with control and suspected resistance. However, UGA entomologists believe the primary reason for poor performance was lack of adequate coverage when making insecticide applications. Many of the problem fields were irrigated and had rank growth making it difficult to achieve coverage in the lower canopy where soybean loopers are commonly found. However, we will continue to monitor susceptibility of SBL to this important class of chemistry. Stink bug numbers were typical and significant acreage was treated during later reproductive stages. Very few, if any, soybeans were treated for kudzu bug. Although we are unsure the exact reason(s) kudzu bug populations have crashed, we do know that significant egg parasitism by *Paratelenomus saccharalis* is occurring in both kudzu and soybean and that significant infections by *Beauvaria bassiana* are occurring in both kudzu and soybeans as well.

Urban and Structural

The tawny crazy ant, *Nylanderia fulva*, has shown up in Dougherty county (Albany, GA) in August 2013, Camden and Glynn counties along I-95 exits coming from Florida (August 2014), and Chatham (Garden City, GA), Lowndes (Valdosta, GA), and Brooks (Quitman, GA) Counties in 2015. Our belief is that this major nuisance ant pest will be restricted to the lower half to one-third of GA and coastal GA. In our studies in Chatham County, at the Port of Savannah, we are seeing the rapid displacement of the red imported fire ant, *Solenopsis invicta*, by *N. fulva*.

Several changes to insecticide labels (pyrethroids and neonicotinoids) have occurred over the past several years. For pyrethroids, changes (in OTC and professional markets) restrict where products can be applied. To prevent water contamination, for instance, they cannot be applied to hard surfaces, cannot be applied more than 3 feet high, must be applied crack and crevice, and must be applied over overhangs when applied to soil. For neonicotinoids, new labels have a pollinator protection box with language mandating that products not be applied to plants with flowers on them.

Although bed bug problems continue to be common in Georgia (mainly in commercial accounts), many companies (including some large ones) not equipped to handle them (multiple visits and labor intense),

or averse to the liability, are not pursuing bed bug work. Although bed bugs get a lot of attention, termites and ants are still more profitable for most companies. On the pest control side, ants (Argentine ants) continue to be the number 1 pest encountered by companies who conduct residential pest control in GA. Bed bugs show up mainly in commercial accounts. Moreover, the bed bug problem in the south and southeast is not as bad as it is in the midwest and northeast. Attractants for bed bug traps is an active area of research. The "ClimbUp" pitfall trap continues to be the industry standard for traps. Heat continues to be used to control bed bugs, mainly as an alternative to pyrethroid resistant populations; pyrethroid resistance in bed bugs is severe and widespread. There are no chemicals on the horizon that will alleviate this situation soon. Essential oils are being looked at, but are not promising. Heat, when used improperly, can worsen bed bug problems by driving bugs from heated premises. Dogs as inspection tools are all over the map when it comes to efficiency; the handler has proven to be a key to the success of dogs as inspectors.

Complaints about kudzu bugs were lower than previous years. Certainly the cold winter the past couple years has helped.

Vegetables

Vegetable crops in Georgia remained very diverse in 2015 and even expanded with renewed interest and expanded acreage in sweet potatoes and minor acreage in new crops such as Brussels sprouts. With this wide variety of crops, there are always insect pest problems of some type. Those situations that were generally more severe than normal include diamondback moth in cole crops, cowpea curculio in southern pea, broad mite in peppers, flea beetle in eggplant, and garden fleahopper in a variety of vegetable. The diamondback moth (DBM) was primarily a problem in the spring crop, and growers and consultants

reported poor control with all insecticides labeled for this pest. Group 28 diamide insecticides, which had been effective, are currently not providing DBM control at some locations in the



Diamondback moth and damage

Southeast. Bt insecticides continue to play an important role in management of this pest when resistance becomes severe. DBM pest pressure was less severe in the fall.

Cowpea curculio continued to decimate most of the cowpea crop in 2015. Insecticide resistance has resulted in no effective control measures for this pest, and the lack of control presents a threat to eliminate this industry in South Georgia, if not the southeastern US.

Broad mites were an issue in the fall crop of peppers. While this has become an almost annual event, we experienced control issues for the first time in 2015. Normally, broad mites are controlled with one, or possibly two, applications of an effective acaricide. In 2015, there were multiple fields reported to be treated 4 and 5 times with products that should have eliminated the problem. A bioassay did show good activity with most of the products. This situation will bear close attention in 2016.

Flea beetles continue to present problems in eggplant. While once easily controlled with most any pyrethroid insecticide, a bioassay conducted in 2015 showed little to no control with all registered insecticide classes for this pest.

Garden fleahopper occurred in large numbers in multiple crops in the fall throughout South Georgia. Fortunately damage by this pest was limited mostly to foliage and it did not appear in the leafy vegetables. A bioassay showed susceptibility to multiple insecticides; however, field experience suggests that reinfestation was extremely rapid because of the extreme populations throughout the area.

Wheat

Some fields of susceptible varieties had significant Hessian fly damage in the spring. Aphids and barley/cereal yellow dwarf disease levels were low across the state.

2016 Annual Meeting Registrations						
Regular members:		Regular Members (walk-up):			Student:	
Ames	Lisa	Abney	Mark		Anes	Christian
Blackmore	Mark	Durden	Lance		Blount	Joni
Braman	Kris	Eger	Joe		Bostick	Nan
Buckman	Michael	Hadden	James		Diffie	Auburn
Buntin	David	Hinkle	Nancy		Disi	Joseph
Croxton	Scott	Noblet	Ray		Evans	Richard
Diffie	Stan	Pitts	Daniel		Gochnour	Benjamin
Fang	Quentin				Grant	Joshua
Gadhav	Kiran				Hadden	Whitney
Harris-Schultz	Karen				Harty	Tom
Horn	Scott				Johnson	DeAndre
Hudson	Will				Johnston	Samuel
Johnson	Lkeira				Knight	Ian
Lee	Cathy	Emeritus/Fellows/Retired:			Lai	Pin-Chu
Mondor	Ed	All	John		Liu	Jean
Ni	Xinzhi	Dutcher	Jim		Nesbitt	Keonka
Oliver	Kerry	French	Frank		Phelan	Brent
Owens	Kerry	Gardner	Wayne		Portier	Trey
Richburg	John	Griffith	Keith		Rich	Annie
Riley	David	Hagan	Dan		Ringler-Lanzy	Matthew
Roberts	Phillip	Horton	Dan			
Rucker	Keith					
Shapiro-Ilan	David					
Shockley	Marianne	Invited Speakers:				
Sial	Ashfaq	Penick	Clint			
Suiter	Dan	Summerford	Doug			
Tietjen	Bill					
Toews	Michael					
Zhang	Yanzuo	Spouses:				
		Diffie	Laurie			
		Gochnour				
		Griffith				
		French	Ileen			
		Riley	Angie			
		Tremblay	Michelle			

**MEMBERSHIP OF THE
GEORGIA ENTOMOLOGICAL
SOCIETY**

Abney	Mark	regular		Cottrell	Ted	regular
Abraham	Cheri	student		Crossley	Dac	regular
Ahn	Kee-Jeong	regular		Dickson	Jenny	student
All	John	regular		Diffie	Stan	regular
Allen	Clint	regular		Dorfzaun	Alexandra	student
Allen	Daniel	student		Douce	Keith	regular
Allen	Margaret	regular		Dunford	James	regular
Ames	Lisa	regular		Durden	Lance	regular
Amis	Ann	regular		Durrence	Jessica	student
Anderson	Alyson	student		Dutcher	Jim	regular
Anderson	Jeremy	student		Eaton	Tyler	regular
Armstrong	Scott	regular		Eger	Joe	regular
Arrington	Brittany	student		Ekbom	Barbara	regular
Arthurs	Steven	regular		Eremeeva	Marina	regular
Avery	Pasco Bruce	regular		Evans	Mike	regular
Avgin	Sakine Serap	regular		Fair	Conner	student
Babb	Megan	student		Faircloth	Wilson	regular
Balogh	Botond	regular		Fang	Quentin	regular
Barnes	Brittany	regular		Farrar	Robert	regular
Beati-Ziegler	Lorenza	regular		Fettig	Christopher	regular
Beaton	Giff	regular		Flanders	Kathy	regular
Benedict	Mark	regular		Foltz	John	emeritus
Beyer	Brendan	student		Frank	Daniel	regular
Bhandari	Krishna	student		French	Frank	emeritus
Blackmore	Mark	regular		French	Ned	regular
Blount	Joni	student		Gandhi	Kamal	regular
Booker	Oliver	student		Gardner	Wayne	regular
Braman	Kris	regular		Gochnour	Benjamin	student
Braswell	Sarah	student		Googe	Katie	student
Brinkman	Mark	regular		Gray	Elmer	regular
Brissey	Courtney	student		Greene	Jeremy	regular
Brown	Ian	regular		Griffith	Keith	regular
Buckman	Michael	regular		Haelewaters	Danny	student
Buntin	G. David	regular		Hagan	Daniel	emeritus
Burns	Shuntele	regular		Hain	Fred	regular
Bush	Bryana	student		Hammes	Glenn	regular
Callcott	Anne-Marie	regular		Hanula	Jim	regular
Campagnoli	Sonia	regular		Harper	Stephanie	student
Capps	Helaina	student		Harris	Bethany	student
Carnagey	Daniel	regular		Harrison	Gerald	regular
Champagne	Don	regular		Harrison	John	regular
Chandler	Laurence	regular		Harris-Schultz	Karen	regular
Chen	Yi-an	student		Harvey	Alan	regular
Conway	Hugh	regular		Hazir	Selcuk	regular
Cook	Don	regular		Headings	Mark	regular
Cooper	William R	regular				

Heim	Craig	regular		Marasigan	Kathleen	student
Herbert	John	regular		Marchant	Wendy	student
Highland	Brett	regular		Mayfield	Albert	regular
Hinkle	Nancy	regular		McCravy	Kenneth	regular
Hirose	Yoshimi	regular		McElrath	Tommy	student
Hix	Raymond	regular		McHugh	Joseph	regular
Holloway	Jacob	student		McPherson	Robert	emeritus
Holt	Courtney	student		Mech	Angela	student
Horn	Scott	regular		Merrifield	Jimmy	student
Horton	Dan	regular		Miorelli	Nancy	student
Hudson	William	regular		Mitchell	Henry	regular
Hughston	Melanie	regular		Mitchell	Paula	regular
Hutchison	William	regular		Mizell	Russ	regular
Iburg	Joseph	regular		Mondor	Edward	regular
Irby	William	regular		Munro	Holly	student
Jenkins	Tracie	regular		Muzyk	Ken	regular
Johnson	Erica	student		Nair	Shakunthala	student
Jones	Cera	regular		Nalepa	Christine	regular
Jordan	Kyle	regular		Newsom	Larry	regular
Joseph	Shimat	regular		Nguyen	Thuy-Vi	student
Karcs	Cassandra	student		Ni	Xinzhi	regular
Kard	Brad	regular		Nims	Todd	regular
Kelly	Rosmarie	regular		Noblet	Ray	regular
Knight	Ian	student		Odom	C. Brian	regular
Kucuk	Roy	student		Oetting	Ronald	emeritus
Kuhar	Tom	regular		Oi	David	regular
Lado	Paula	student		Oliver	James	emeritus
Lago	Paul	regular		Oliver	Jason	regular
Lai	PinChu	student		Orellana	Luis	regular
Lampert	Evan	regular		Osbrink	Weste	regular
Layton	Blake	regular		Osting	Cody	student
Lee	Cathy	regular		Owens	Clay	regular
Lee	Tae-Young	student		Parks	Melissa	student
Legarrea	Saioa	student		Perkins	Gretchen	student
Leite	Luis	regular		Perry	Kayla	student
Li	Ming	regular		Peterson	Lance	emeritus
Liang	Ai-Ping	regular		Pfannenstiel	Robert	regular
Lim	Su Yee	regular		Philips	Christopher	regular
Little	Brian	student		Pilkay	Grant	student
Lohmeyer	Kimberly	regular		Podgwaite	John	regular
Lowman	Alan	regular		Quisenberry	Sharron	
Ludwig	Scott	regular		Ramoutar	Darryl	regular
Ludwig	John	student		Reding	Michael	regular
Luttrell	Randy	regular		Reid	Ashlin	student
Maner	Luke	student		Richburg	John	regular
Mangini	Alex	regular		Richman	Dina	regular

Riffle	Michael			Thompson	Lynne	emeritus
Riley	David	regular		Thompson	Melissa	student
Robbins	Paul	regular		Tietjen	William	emeritus
Roberts	Phillip	regular		Tillman	Glynn	regular
Robertson	Derek	student		Timer	Jody	regular
Robertson	Robert	emeritus		Toews	Michael	regular
Roden	Ashley	student		Townsend	Monica	regular
Rodenberger	Kathryn	student		Tremblay	Michelle	spouse
Rosensteel	Danielle	student		Turnbow	Robert H	regular
Royal	Stanley	regular		Ulyshen	Michael	regular
Ruberson	John	regular		Vigil	Stacey	regular
Rucker	Keith	regular		Walker	Max	emeritus
Santana	Fred	regular		Walters	Miranda	student
Scheffrahn	Rudolf	regular		Wei	Xing	regular
Schmidt	Jason	regular		Westberry	Lisa	regular
Schuster	David	emeritus		Williams	Elizabeth	regular
Seabolt	Matthew	student		Wimmer	Jessica	student
Sedlacek	John	regular		Young	Orrey	emeritus
Seiter	Nicholas	student		Zhang	Yanzhuo	regular
Semtner	Paul	emeritus				
Shapiro-Ilan	David	regular				
Shockley	Marianne	regular				
Shrestha	Anita	student				
Sial	Ashfaq	regular				
Simmons	Alvin	regular				
Simmons	Breana	regular				
Smith	Clyde	regular				
Smith	David	emeritus				
Smith	Jeffrey	regular				
Smith	Ron	emeritus				
Smyth	Linda	emeritus				
Sparks	Alton, Jr.	regular				
Sparks	Beverly	emeritus				
Spurgeon	Dale	regular				
Srinivasan	Babu	regular				
Stewart	Colin	regular				
Stewart	Julia	regular				
Studer	Liz	student				
Suiter	Dan	regular				
Sullivan	Brian	regular				
Swain	Hilary	regular				
Taylor	Dennis	regular				
Taylor	Mickey	regular				
Taylor	Shine	regular				
Tedders	Walker	emeritus				
Thomas	Donald	regular				

Georgia Entomological Society 2015 Annual Meeting Financial Report

The 79th Annual Meeting held at Villas by the Sea, Jekyll Island, Georgia.

GES Meeting Financial Report:

Income

Industry Support	\$1,950.00
Registration	
Full (43 at \$150)	6,450.00
Emeritus (4 at \$50)	200.00
Student (22 at \$25)	550.00
Spouses (6 at \$25)	150.00
Total Income	\$9,300.00

Expenses

Rainwater Conf. Ctr.	\$4303.66
Programs (printing)	478.20
Plaques	682.92
Awards	775.00
Scholarships	1000.00
Fun Run	343.20
Meeting supplies (breaks)	355.95
PayPal fees (meeting only)	251.60
Total Expenses	\$8190.53

<u>Income - expenses</u>	\$1109.47
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