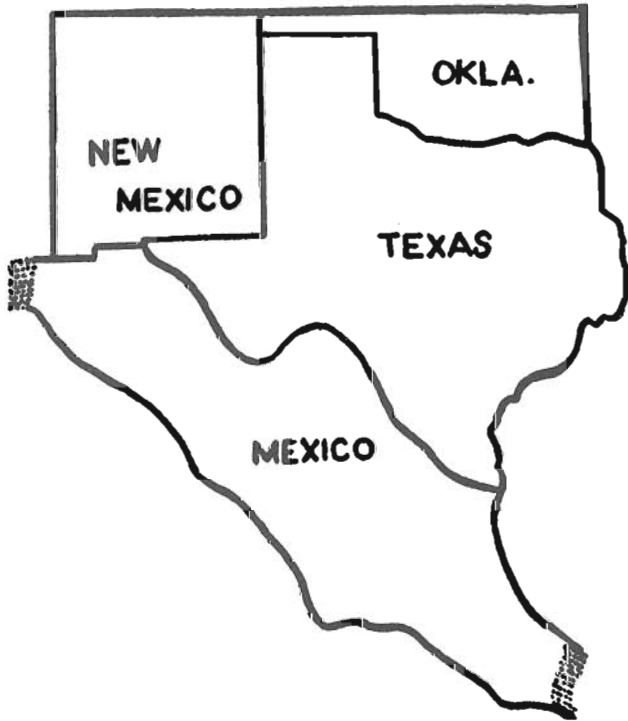


SOUTHWESTERN BRANCH

**ENTOMOLOGICAL SOCIETY
OF AMERICA**

Twenty First Annual Meeting



**EL TROPICANO MOTOR HOTEL
SAN ANTONIO, TEXAS**

February 11-13, 1973

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Monterrey Institute of Technology
Monterrey, N. L., Mexico

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- P R O G R A M -
TWENTY-FIRST ANNUAL MEETING
Southwestern Branch
ENTOMOLOGICAL SOCIETY OF AMERICA

Sunday—February 11

P.M.

- 2:00 Meeting of the Executive Committee —
Juarez Room
- 2:00— 7:00 Ladies Informal Hospitality Center—
Lanai Room
- 4:00— 7:00 Registration—Lobby of El Tropicano Motor
Hotel
- 7:00— 9:00 Buffet—Mixer (Admission Charge, \$2.00)—
Hemisfair Room.

Monday—February 12

A.M.

- 8:00—10:00 Registration—Lobby of El Tropicano Motor
Hotel
- 8:00 Ladies Informal Hospitality Center—Lanai
Room.
- 8:30 General Sessions—Ballroom
- Invocation— Lt. Col. E. J. Beekley, Chaplain,
Lackland Air Force Base, San Antonio, Texas
- Address of Welcome—The Honorable John
Gatti, Mayor, San Antonio
- Address of President—Southwestern Branch
Entomological Society of America, Dieter
Enkerlin S.
- Announcements and Committee Appoint-
ments.
- Report of the Southwestern Branch Mem-
ber of the Governing Board, Entomological
Society of America—Gordon E. Guyer,
Michigan State University, East Lansing,
Michigan.
- Remarks of the Executive Secretary, Ento-
mological Society of America—Wallace P.
Murdoch, College Park, Maryland.
- 10:00 R e c e s s .
- 10:30 Invitational Addresses.
- Extension's Role in Implementing P e s t
Management Programs—John G. Thomas,
Extension Entomologist, Extension Serv-
ice, USDA, Washington, D.C.
- 11:30 Role of Regulatory Agencies in Pest Manage-
ment—James R. Brazzel, Chief, Methods
Development Branch, Plant Protection and
Quarantine, Animal and Plant Health In-
spection Service, USDA, Hyattsville, Md.

Monday, February 12, Central America Room

Crop Protection Entomology
Jose Luis Carrillo, Presiding

P.M.

- 1:20 Field Performance of Promising Insecticides For *Heliothis* Attacking Cotton: R. L. Hanna, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 1:30 Control of *Heliothis virescens* with Galecron on Cotton in Sonora, Mexico— Enrique Jimenez R., CIBA-GEIGY Mexicana, S.A. de C. V. Depto. Investigacion Agroquimica, Division Agropecuaria, Mexico, D.F.
- 1:40 Effects of Simulated Bollworm Damage to Five Cottons in the El Paso Valley, T. L. Pate and J. T. Pitts, Texas A&M U. Agric. Research Center, El Paso, Texas.
- 1:50 Cotton Pest Management Programs in Texas— R. E. Frisbie, Texas Agricultural Extension Service, Texas A&M U. College Station, Texas.
- 2:00 Highlights of the Lower Rio Grande Valley Cotton Pest Management Program in 1972. —Roy D. Parker, Texas Agric. Extension Service, Weslaco, Texas.
- 2:10 Problems Caused by the Cotton-Leaf Perforator in Sinaloa, Mexico—Joel Rodriguez V. and Santiago Armenta. Campo Agricola Experimental, Valle del Fuerte, Sinaloa, Mexico.
- 2:20 Control of *Heliothis* spp. and *Pectinophora gossypiella* on Cotton in Torreon, Mexico. —William E. Rose, CIBA-GEIGY Mexicana S.A. de C.V. Depto. Investigacion Agropecuaria, Mexico, D. F. Mexico.
- 2:30 Insect Pest Problems in Several Cotton Growing Areas of Mexico—Jose L. Carrillo S., Instituto Nacional de Investigaciones Agricolas, Chapingo, Mexico.
- 2:40 Sequential Sampling of Cotton Fleahoppers, *Pseudatomoscelis seriatus* (Reuter). Edward P. Pieters, Ent. Department, Texas A&M U., College Station, Texas.
- 2:50 Fall Applications of Insecticide to Reduce the Number of Over-Wintering Cotton Fleahoppers—Lyndon K. Almand, Ent. Dept., Texas A&M U. College Station, Tex.
- 3:10 Economics of Controlling Insects on Peanuts in Texas—J. W. Smith, Jr., Dept. of Ent., Texas A&M U., College Station, Texas, and C. E. Hoelscher, Texas Agric. Extension Service, Stephenville, Texas.
- 3:10 R e c e s s .

P. M. **Monday—February 12, Ballroom**
Ecology, Behaviour, and Bionomics
Thomas L. Payne, Presiding

- P. M.
1:20 Response of Pecan Weevil Larvae to Various Temperatures While in the Nut—Marvin K. Harris, Dept. of Ent., Texas A&M U., College Station, Texas.
- 1:30 A Comparison of Several Sampling Methods for the Pecan Weevil— D. J. Boethel and J. T. Criswell, Dept. of Ent., Oklahoma State U., Stillwater, Oklahoma.
- 1:40 Life Cycle of **Anastrepha ludens** (Lowe) Under Different Temperature and Light Conditions—Ligia Nunez Bueno and Dieter Enkerlin S. Graduate Program in Agriculture, Instituto Tecnologico de Monterrey, Mexico.
- 1:50 Population Dynamics of the Greenbug—William E. Ruth and R. D. Eikenbary, Dept. of Ent., Oklahoma State U., Stillwater, Okla.
- 2:00 Population Patterns of the Spittle Bug **Aeneolamia** spp. in Pastures in the Huasteca Potosina Region—Gregorio Ibarra, Instituto Tecnologico de Monterrey and Union Regional Ganadera of the Huasteca Potosina, Mexico.
- 2:10 Studies on the Population Dynamics of the Pasture and Sugar Cane Spittle Bugs **Aneolamia** spp., and **Prosapia** spp. in the Huasteca Potosina Region— Pieter Oomen^{1/} and Dieter Enkerlin S.^{2/}.
- 1/ Project for training Research and Extension in Animal Science. F.A.O.
- 2/ Graduate Program in Agriculture Instituto Tecnologico de Monterrey, Mexico
- 2:20 Biological Suppression of **Asphondylia** sp. (Diptera: Cecidomyiidae) on Guar. — Charlie E. Rogers, Texas A&M U., Vegetable Research Station, Munday, Texas.
- 2:30 Mass Rearing of **Anopheles stephensi** Using a Commercial "fish food," Tetramin—Gregory K. Nienaber, Maria C. Rosales-Ronquillo, and Paul H. Silverman, U. of New Mexico, Dept. of Biology, Albuquerque, New Mexico.
- 2:40 Screening Peanut Cultivars for Resistance to the Lesser Cornstalk Borer. Lazaro Posada and J. W. Smith, Jr., Dept. of Ent., Texas A&M U., College Station, Texas.
- 3:00 Recess.

Monday, February 12--Ballroom

P. M.

- 3:20 Symposium—Current Status of Screwworm Research and Eradication—Moderator: R. C. Bushland, USDA, ARS, Screwworm Research Laboratory, Mission, Texas.
- 3:30 Progress in Screwworm Eradication— M. E. Meadows, Director Screwworm Eradication Program, APHIS, Mission, Texas.
- 3:45 National and International Programs for Screwworm Eradication— D. L. Williams, Chief Staff Veterinarian, Screwworm Eradication Program, APHIS, Hyattsville, Maryland.
- 4:00 Participation by SWAHRF in Screwworm Eradication Programs—R. J. Anderson, Trustee, Southwest Animal Health Research Foundation, Marshall, Texas.
- 4:15 Research in Mexico in Support of Screwworm Eradication Programs— O. H. Graham, ARS, USDA, Kerrville, Texas.
- 4:30 Research Applied to Problems in Screwworm Eradication—R. C. Bushland, ARS, Mission, Texas.
- 4:45 Discussion.
- 5:15 Open Informal Meeting of Members and Interested Individuals, American Registry of Certified Entomologists.

A. M.

- 8:00 Attractancy of Inoculated and Incubated Bovine Blood in Blood Fractions to Screwworm Flies—Role of Bacteria—Joyce A. DeVaney ARS, USDA College Station, Texas. Gaines W. Eddy, ARS, USDA, Mission, Texas. E. M. Ellis and Rube Harrington, Jr. APHIS, USDA, Ames, Iowa.
- 8:10 Attempts to Develop a Male Screwworm Attractant—Rolland R. Grabbe and Gaines W. Eddy, USDA, ARS, Screwworm Research Laboratory, Mission, Texas.
- 8:20 Laboratory Evaluation of the Quality of Mass-Produced Screwworm Flies—Maxwell M. Crystal, Screwworm Research Laboratory, Agric. Res. Serv., USDA, Mission, Texas.
- 8:30 Sterility of Screwworm Eggs Collected in South Texas—Calvin M. Jones, Screwworm Research Laboratory, Agr. Res. Serv., USDA, ARS, Kerrville, Texas.
- 8:40 Local Effect of a Point Release of One-Million Sterile Screwworm Flies—D. E. Hopkins and Charles C. Dawkins, Screwworm Research Laboratory, Agr. Res. Serv., USDA, Kerrville, Texas.
- 8:50 Rearing of Horn Flies on a Steer in the Laboratory. J. L. Eschle, R. L. Harris, U. S. Livestock Insects Laboratory, ARS, USDA, Kerrville, Texas; I. L. Berry, Veterinary Toxicology and Entomology Research Laboratory, ARS, USDA, College Station, Texas.
- 9:00 Development of Horn Flies, Stable Flies and House Flies in Feces of Bovines Treated Orally with Compounds Related to Insect Juvenile Hormones—R. L. Harris, E. D. Frazar and R. L. Younger, U.S. Livestock Insects Laboratory, ARS, USDA, Kerrville, Texas.
- 9:10 Emergence, Survival and Sterility of Horn Flies After ^{60}Co Irradiation of Pupae. W. F. Chamberlain, U. S. Livestock Insects Laboratory, ARS, USDA, Kerrville, Texas.
- 9:20 Survival and Mating of Irradiated Male Horn Flies on Steers in Outdoor Cages—C. D. Schmidt, U.S. Livestock Insects Laboratory, ARS, USDA Kerrville, Texas.
- 9:30 Progress and Evaluation of Release of *Onthophagus gazella* F. (Coleoptera: Scarabaeidae) in Victoria and Kleberg Counties, Texas—R. R. Blume and A. Aga, Veterinary Toxicology and Entomology Research Laboratory, USDA, ARS, College Station, Texas.
- 9:40 Mosquito Larvacide Studies with a Synthetic Juvenile Hormone: ZR-515—Charles R. Ward, Gordon Graves, Larry Goodgion and Jerry Pitts, Entomology Section, Texas Tech University, Lubbock, Texas.
- 9:50 The 1972 VEE Surveillance Program in Texas: Vector Potential in the Texas Coastal Zone and Rio Grande River Valley—J. K. Olson, Dept. of Entomology, Texas A&M U., College Station, Texas.

10:00 R e c e s s .

Tuesday, February 13—Central America Room

Crop Protection Entomology

J. W. Smith, Jr., Presiding

A. M.

- 8:00 Current Status of the Diapause Boll Weevil Control Program in the Texas High Plains—J. C. Hatchett, District Office, APHIS, USDA, Lubbock, Texas.
- 8:10 Cutting of Corn Silks as a Method of Reducing Corn Earworm Infestation in Apodaca, N.L.—Sergio Aburto Marquez and Cecilia Zubieta, Parasitology Section, Instituto Tecnológico de Monterrey, Mexico.
- 8:20 Chemical Control of the Banks Grass Mite on Grain Sorghum in the Trans-Pecos Area in 1972—Gordon Graves and Charles R. Ward, Texas Tech U., Entomology Section, Lubbock, Texas.
- 8:30 Components of Greenbug Resistance in Sorghum—David J. Schuster, Dept. of Ent., Oklahoma State U., Stillwater, Oklahoma.
- 8:40 Damage Assessment of a White Grub, *Phyllophaga crinita* Burmeister, in Grain Sorghum and Wheat—George L. Teetes, Texas A&M U. Agric. Research and Extension Center, Lubbock, Texas.
- 8:50 Chemical Control of the Green Peach Aphid, *Myzus persicae* (Sulz), on Potatoes in Leon, Gto—Gabriel Diaz Castro, Centro de Investigaciones Agrícolas del Bajío, Celaya, Gto. Mexico.
- 9:00 Early Season Control of the Alfalfa Weevil in Oklahoma—Richard C. Berberet, Dept. of Ent., Oklahoma State U., Stillwater, Oklahoma.
- 9:10 Losses Caused by Different Number of Adults of Spittle Bugs to African Star and Aleman Grasses in Cotaxtla, Veracruz—Hermenegildo Velasco Pascual, Centro de Investigaciones Agrícolas del Sureste, Veracruz, Mexico.
- 9:20 Effectiveness of Four Insecticides Against the Sunflower Moth, *Homoeosoma electellum* (Hulst) and Other Insect Pests—Enrique Aranda H., and Carlos Deras, Parasitology Section and Graduate Program in Agriculture, Instituto Tecnológico de Monterrey, Mexico.
- 9:30 Field Evaluation of Several Compounds for the Control of Pecan Insect Complex in Central Texas—H. W. Van Cleave, Dept. of Ent., A&M U. College Station, Texas.
- 9:40 Pecan Nut Casebearer Control by Aerial Application—Stanley Coppock, Dept. of Ent., Oklahoma State U., Stillwater, Oklahoma.
- 9:50 APHIS Programs in Southwestern Region—E. W. Jackson, Deputy Regional Director, Southwestern Region, PP&Q, APHIS, USDA, Brownsville, Texas.
- 10:00 R e c e s s .

Tuesday, February 13—River Room

Ecology, Behavior, & Bionomics

J. J. Durkin, Presiding

A. M.

- 8:00 Relative Seasonal Abundances of the Sugarcane borer, *Diatraea saccharalis* (F.), and *Trichogramma* spp. on Sugarcane in Texas—Thomas W. Fuchs, J. A. Harding, and Ted Dupnik, Texas A&M U. Agricultural Research and Extension Center, Weslaco, Texas.
- 8:10 The Bionomics of *Hippodamia convergens* on Grain Sorghum in West Texas—Ronald D. Kirby, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 8:20 Deterioration of *Chrysopa carnea* in Mass Culture—S. L. Jones and R. E. Kinzer, USDA, ARS, Cotton Insects Research Laboratory, College Station, Texas.
- 8:30 Species Composition of *Chrysopa* as Affected by Crop and Season—R. E. Kinzer, J. R. Coppedge, and S. L. Jones, USDA, ARS, Cotton Insects Research Laboratory, College Station, Texas.
- 8:40 Morphology and Feeding Behavior of Larvae of *Campoletis sonorensis*—D. D. Wilson and R. L. Ridgway, USDA, ARS, Cotton Insects Research Laboratory, College Station, Texas.
- 8:50 Augmentation of Lepidopterous Eggs and/or Larvae as a Potential for Control of the Bollworm—John H. Pickle, Jr., Oklahoma State U., Stillwater, Oklahoma.
- 9:00 Host Feeding by the Parasitoid, *Aphelinus asychis*—R. H. Cate and T. L. Archer, Dept. of Entomology, Oklahoma State U., Stillwater, Oklahoma.
- 9:10 Parasites Collected from Greenbugs and Corn Leaf Aphids in Oklahoma—T. L. Archer, R. H. Cate, and R. D. Eikenbary, Oklahoma State U., Stillwater, Oklahoma.
- 9:20 Relationship of Grass Mite Abundance and Corn Phenology—J. T. Pitts and T. L. Pate, Texas A&M U., Agric. Research Center at El Paso.
- 9:30 Unit Nest Containers and Shelters for *Polistes* Wasps—J. E. Gillaspay, Biology Dept., Texas A&M U., Kingsville, Texas.
- 9:40 Internal Nematode Parasites of *Ips* Bark Beetles in East Texas—William H. Hoffard and Jack E. Coster, School of Forestry, Stephen F. Austin State U., Nacogdoches, Texas.
- 9:50 Some Characteristics of Emergence and Flight Behavior of *Ips* Bark Beetles in East Texas—Joseph F. Denniston and Jack E. Coster, Stephen F. Austin State U., Nacogdoches, Texas.
- 10:00 Recess.

Tuesday, February 13—Hidalgo Room

Medical and Veterinary Entomology

W. F. Chamberlain, Presiding

A. M.

- 10:20 An Estimate of Total Mite Populations for Certain Areas of Antarctica—R. W. Strandtmann and John E. George, Texas Tech U., Lubbock, Texas.
- 10:30 Mite Activity During the Antarctic Winter of 1972 at Palmer Station— William Graham and Allen Crooker, Texas Tech U., Lubbock, Texas.
- 10:40 Some Ecological Aspects of The Chigger **Neoschongastia americana**—J. R. Cunningham and S. E. Kunz, Dept. of Ent., Texas A&M U., College Station, Texas, and M. A. Price, Veterinary Toxicology & Entomology Research Laboratory, ARS, USDA, College Station, Texas.
- 10:50 Current Views on the House Dust Mite **Dermatophagoides farinae** Hughes and House Dust Allergy—C. C. Hall, Dept. of Biology, U. of Texas at Arlington, Arlington, Texas.
- 11:00 Experimental Interspecific Mating of **Amblyomma maculatum** and **A. americanum**— William J. Gladney and Charles C. Dawkins, U. S. Livestock Insects Laboratory, ARS, USDA, Kerrville, Texas.
- 11:10 Effects of Dietary Vitamin A on Percutaneous Infestation of Cattle With Cattle Grubs— R. E. Gingrich and C. C. Barrett, U.S. Livestock Insects Laboratory, ARS, USDA, Kerrville, Texas.
- 11:20 Detection of Animal Systemic Insecticides by a White Mouse—**Cuterebra** Larva System—R. O. Drummond and R. E. Gingrich, U. S. Livestock Insects Laboratory, ARS, USDA, Kerrville, Texas.
- 11:30 Juvenile Hormone Analogues and the Stable Fly— James E. Wright, Veterinary Toxicology and Entomology Research Laboratory, ARS, USDA, College Station, Texas.
- 11:40 A Comparison of Two Techniques for the Production of a Gradient of Competitive Stress in Populations of House Fly Larvae—Robert W. Clegern, USAF Environmental Health Lab, Kelly AFB, Texas
- 11:50 The Development of Measurement Criteria for the Prediction of Population Success in the Laboratory Rearing of House Flies—Robert W. Clegern, USAF Environmental Health Lab, Kelly AFB, Texas.
- 12:00 An Analysis of Environmental Parameters, Their Optima, and Their Stress Effects as Related to the Growth and Development of Populations of Immature House Flies—Robert W. Clegern, USAF Environmental Health Lab, Kelly AFB, Texas.
- 12:10 R e c e s s .

Tuesday, February 13—River Room

Ecology, Behavior, & Bionomics

J. J. Durkin, Presiding

A. M.

- 10:20 Cotton Fleahopper Management in an East Texas Cotton Ecosystem—Winfield Sterling, Department of Entomology, Texas A&M U., College Station, Texas.
- 10:30 Cotton Fleahopper - Cotton Genotype Studies—J. K. Walker, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 10:40 Suppression of Field Populations of *Heliothis* spp. with Insect-Resistant Cottons— M. J. Lukefahr and J. E. Houghtaling, USDA, ARS, Brownsville, Texas.
- 10:50 *Heliothis zea* (Boddie) Populations in Black Light Traps in Apodaca, N. L.— Freddy Alonso and Juan M. Mathiew ^{1/}, Graduate Program in Agriculture, Instituto Tecnológico of Monterrey, Mexico.
1/Presently School of Agriculture, Cd. Obregon, Mexico.
- 11:00 A Model for Predicting *Heliothis* spp. Population Fluctuations Based on Lunar Phases—Stanley J. Nemeč, Research Scientist, Dept. of Entomology Texas A&M U., College Station, Texas.
- 11:10 *Heliothis virescens* Fabricius Populations in Virgin Female Traps in the Vicinity of Monterrey—Oswaldo Garcia Martinez and Juan M. Mathiew^{1/}. Graduate Program in Agriculture, Instituto Tecnológico of Monterrey, Mexico.
1/Presently School of Agriculture, Cd. Obregon, Sonora, Mexico.
- 11:20 Seasonal Variations in Boll Weevil Flight in the Rolling Plains of Texas—Don R. Rummel, Texas A&M U. Agricultural Research & Extension Center, Lubbock, Texas.
- 11:30 Cotton Boll Weevil Infestation as a Response to "Leggett" Traps in the Yaqui Valley, Sonora, Mexico, 1972—Francisco Pacheco M., CIANO Cd. Obregon, Sonora, Mexico.
- 11:40 Natural Control of Boll Weevil—D. G. Bottrell, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 11:50 Taxonomic Relationships of *Anthonomus grandis* Boh. (Coleoptera: Curculionidae). —Horace R. Burke, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 12:00 Observations on the Life History of *Hypothenemus mixta* Howden (Coleoptera: Scarabaeidae)—Carl S. Barfield, Dept. of Entomology, Texas A&M U. College Station, Texas, and W. W. Gibson, Stephen F. Austin State U., Nacogdoches, Texas.
- 12:10 R e c e s s . .

Tuesday, February 13—Central America Room

Physiology, Biochemistry, & Toxicology

A. A. Guerra, Presiding

A. M.

- 10:20 Suppression of Field-Cage Tobacco Budworm Populations with Sterile Females—Antonio A. Guerra USDA, ARS, Brownsville, Texas.
- 10:30 Sterility of *Heliothis virescens* Fabricius Adults After Low Dose Irradiation of Diapausing Pupae—Robert Mancilla and Dieter Enkerlin S.^{1/}
1/Graduate Program in Agriculture, Instituto Tecnológico de Monterrey, Mexico.
- 10:40 Activity of Certain Chemosterilants Against the Tobacco Budworm—D. A. Wolfenbarger, Eliud Cantu (USDA, ARS, Brownsville, Texas), J. G. Pomonis (USDA, ARS, Fargo, N.D.) and S. H. Robinson (USDA, ARS, Brownsville, Texas).
- 10:50 Effects of ⁶⁰Cobalt Irradiation on the Attractancy of Bacteria-inoculated and Incubated Bovine Blood and Homogenized Screwworm Larvae to Screwworm Flies—Gaines W. Eddy, Joyce A. DeVaney, Bobby D. Handke, and Erasmo Lopez, Screwworm Research Laboratory, ARS, USDA, Mission, Texas.
- 11:00 Response of Body Lice to Blackbody Radiation—Albert Broce, Rama de Entomología, Colegio de Postgraduados, Chapingo, Mexico, and P. S. Callahan, Dept. of Entomology, University of Florida, Gainesville, Florida.
- 11:10 Field Evaluation of the *Heliothis* Nuclear Polyhedrosis Virus for Control of *Heliothis* in Cotton—J. R. Coppedge and V. S. House, U.S.D.A.-Agric. Res. Serv., Cotton Insects Research Laboratory, College Station, Texas.
- 11:20 Formulations for Controlling the Release of the Synthetic Pheromone (Grandlure) of the Boll Weevil—D. L. Bull and J. R. Coppedge, USDA, ARS, Cotton Insects Research Laboratory, College Station, Texas.
- 11:30 Developmental Studies of the Convergent Lady Beetle—Norris E. Daniels and Louis D. Chedester, Texas Agric. Expt. Sta., Bushland, Texas.
- 11:40 Changes in the Chorion of a Parasitoid Egg in a Suitable and Non-Suitable Host—S. Bradleigh Vinson, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 11:50 The Effects of DDT and Other Insecticides on Growth and Photosynthesis of a Freshwater Alga—Donald R. Cole and F. W. Plapp, Jr., Dept. Entomology, Texas A&M U., College Station, Texas.
- 12:00 Tests for the Control of White Grubs in Lawns—H. A. Turney, Area Extension Entomologist, Texas A&M Research and Extension Center, Renner, Texas.
- 12:10 R e c e s s .

Tuesday, February 13—Central America Room

Physiology, Biochemistry, & Toxicology

A. A. Guerra, Presiding

P.M.

- 1:20 Orthene^R Systemic Seed Treater for Early Season Control of Foliar Insects on Cotton, Peanuts and Other Crops—R. R. Johnson and H. Marcus Adair, Chevron Chemical Company, Ocoee, Florida and Greenville, Miss.
- 1:30 Present Status of OP-Insecticide Resistance in *Heliothis* spp. Populations in Texas—Stanley J. Nemeec, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 1:40 Recent Studies and Label Status of Galecron^R in Cotton for *Heliothis* Control—Aithel McMahon, C. A. King, Jr., and W. E. Turner—Field Research Agric. Div., CIBA-GEIGY Corp., Bedford, Texas.
- 1:50 Biological Activity of DS-15647, A New Systemic Ketoxime Carbamate.— L. E. Limpel, Boyce Thompson Institute for Plant Research, Inc., Yonkers, N.Y. and T. A. Magee, Diamond Shamrock Corp., T. R. Evans Research Center, Painesville, Ohio.
- 2:00 The Fate of Diamond Shamrock - 15647 in Cotton Plants and Soil—C. J. Whitten and D. L. Bull, Cotton Insects Laboratory, ARS, USDA, Agric., College Station, Texas.
- 2:10 Remote Sensing of Ecological Influence in Entomology—William G. Hart, USDA, ARS, Southern Region, Citrus Insects Investigations, Weslaco, Tex.
- 2:20 Evaluation of Aerial Infrared Photography as a Survey Tool to Detect The Imported Fire Ant, *Solenopsis invicta* Buren—L. R. Green, Agric., Extension Service, College Station, Texas.
- 2:30 Some SEM-Microphotographs of Structures of the Lone Star Tick— M. L. Beadles, U.S. Livestock Insects Laboratory, ARS, USDA, Kerrville, Texas; G. S. Tullock and F. H. Miller, Jr., Nassau County Medical Center, Nassau, New York.
- 2:40 The Neuroanatomy of the Deutocerebrum in the Female *Galleria mellonella* (Linnaeus) (Lepidoptera: Pyralidae)—W. E. Finn and T. L. Payne, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 2:50 Response of Lesser Cornstalk Borer Larvae to Temperature and Photo-period—Rodney L. Holloway and P. W. Jackson, Dept. of Entomology, Texas A&M U., College Station, Texas
- 3:00 Dietary and Biology Studies of the Cottonwood Twig Borer, *Gyposonoma haimbachiana* (Kearfott) (Lepidoptera: Olethreutidae)—V. C. Mastro and T. L. Payne, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 3:10 Economics of Controlling Insects on Peanuts in Texas—J. W. Smith, Jr., Dept. of Ent., Texas A&M U., College Station, Texas, and C. E. Hoelscher, Area Entomologist, Stephenville, Texas.
- 3:30 Final Business Meeting, Dieter Enkerlin S., Presiding — River Room.

Tuesday, February 13—River Room

Ecology, Behavior & Bionomics

R. Berberet, Presiding

P. M.

- 1:20 Comparative Estimates From Sample Methods and Sizes for Cotton Fruit, Damage, and Insects—T. D. Dupnik, D. A. Wolfenbarger, J. A. Harding, and T. W. Fuchs, Texas A&M U., Lower Rio Grande Valley Research & Extension Center, Weslaco, Texas.
- 1:30 The Effect of Different Row Spacings in Cotton on Insect Numbers in Southwestern Oklahoma—Glynadee A. Edwards, R. G. Price and Jerry H. Young, Entomology Dept., Oklahoma State U., Stillwater, Okla.
- 1:40 The Effects of Interplanting Sorghum with Cotton on the Insect Populations—William B. Massey, Jr. Dept. of Entomology, Oklahoma State U., Stillwater, Oklahoma.
- 1:50 Plot Size Evaluations for D-Vac Arthropod Studies in Cotton—J. A. Harding^{1/}, T. D. Dupnik^{1/}, D. A. Wolfenbarger^{2/}, and T. W. Fuchs^{1/}
- 1/ TAES and 2/ USDA
- 1/ Lower Rio Grande Valley Research and Extension Center, Weslaco, Texas
- 2/ Entomology Research Center, Brownsville, Texas.
- 2:00 Role of Systematics in Pest Management. L.E. Ehler, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 2:10 Heterogony in the gall wasp *Andricus laniger* Ashm. (Hymenoptera: Cynipidae). Dennis R. Hamel, Dept. of Entomology, Texas A&M U., College Station, Texas.
- 2:20 Life History and Habits of the Southwestern Pine Tip Moth, *Rhyacionia neomexicana* (Dyar) (Lepidoptera: Olethreutidae). Daniel T. Jennings, U.S. Forest Service, Rocky Mt. Forest & Range Expt. Sta., Albuquerque, New Mexico.
- 2:30 Biological Studies of Overwintering Burrowing Bugs, *Pangaeus bilineatus* (Say). Charles L. Cole, Area Entomologist, Texas Agric. Extension Serv., College Station, Texas.
- 2:40 Flight and Related Behavior of Male Army Ants in Texas. Robert S. Baldrige, Dept. of Biology, Schreiner Jr. College, Kerrville, Texas, and Carl W. Rettenmeyer, Biological Sciences Group, The University of Connecticut, Storrs, Conn.
- 2:50 The Development of Principles in Urban Entomology. Gordon W. Frankie Dept. of Entomology, Texas A&M U., College Station, Texas.
- 3:00 R e c e s s
- 3:30 Final Business Meeting, Dieter Enkerlin S., Presiding, River Room