Entomology

Insect Biology – Biological Studies of Insects

Insect Sciences – All aspects of the Sciences applied to insects in their environments eg. Insect Ecology, Vector Biology, Insect Physiology

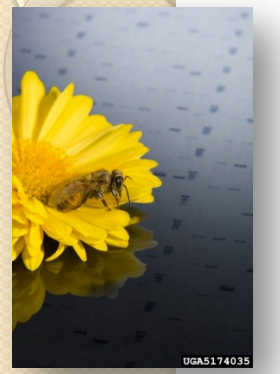
Entomology – The Science

- Life Science: examples include insect genetics/ genomics, physiology, systematics, ecology
- Applied or Agricultural Science: examples include insect pest management in agricultural, urban (home and industrial), forests, and aquatic environments; vector biology; nuisance species
- Insects affect the lives of everyone

Entomology – The Science

- Best examples of biodiversity
- Almost all insect species are beneficial
- Insect control and damage costs in Georgia usually around $1 billion/year. Examples in 2004: Cotton - $92 million, ornamental plants - $172.3 million, public health $222 million, animal industries - $23.3 million

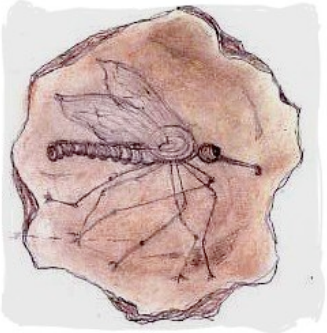
Entomology – The Science

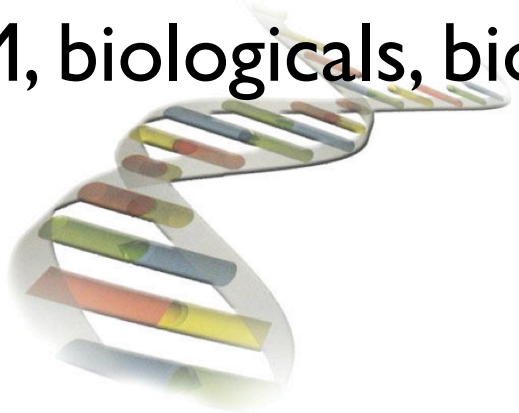


- Honey Bees – Pollination
- Forensic Entomology – Legal issues in food industry
- Forensic Entomology – Time and place of death in homicide investigations
- Biosecurity/Biosafety and insects in warfare

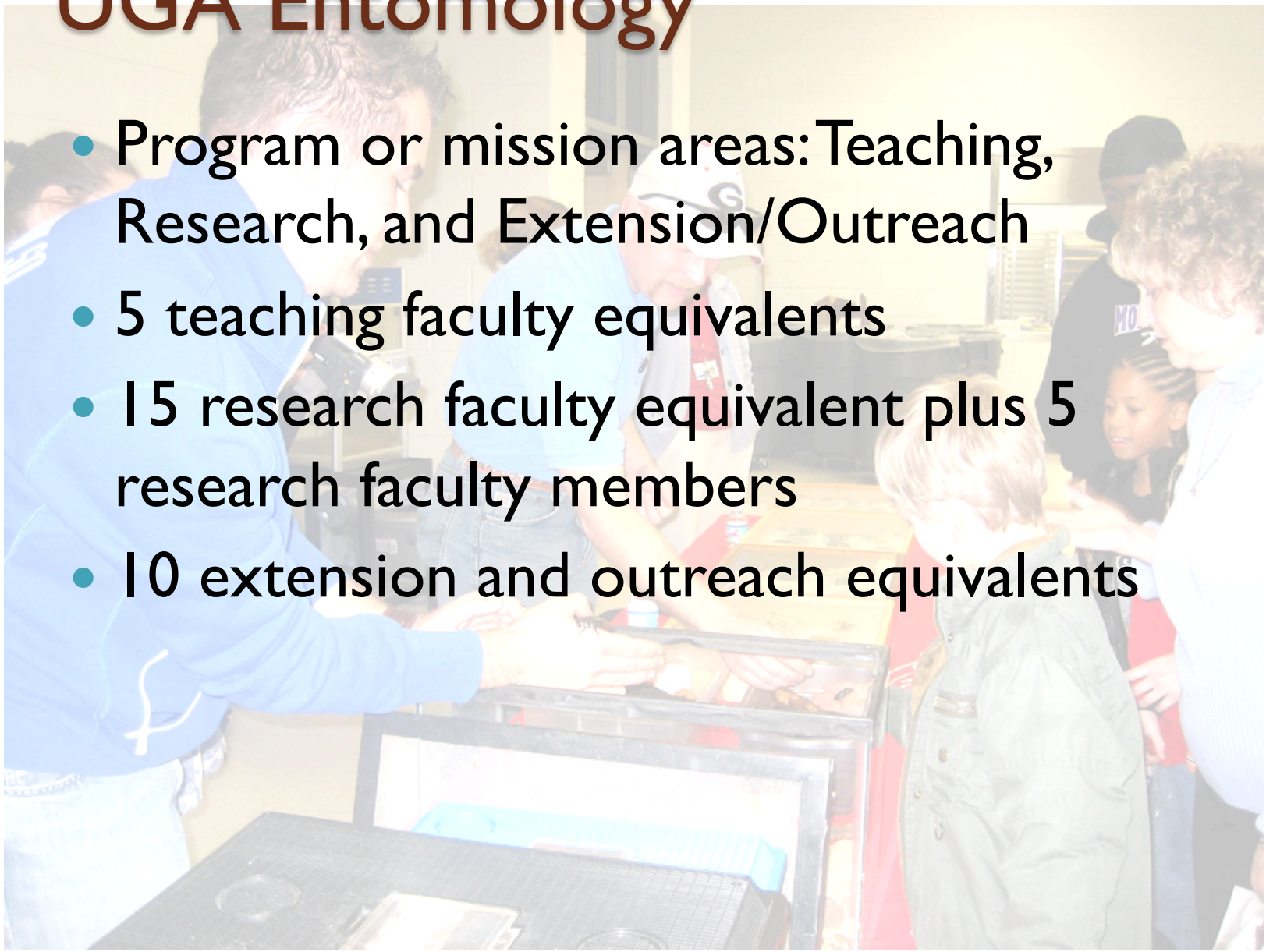
History and Development

- Ancient History of Insects – Eg. Chinese and Jewish Cultures
- European Developments
- Entomology in North America
- More Recent Developments – 1900 to now: medical, crop protection or ecomomic, pesticide era, basic insect sciences, IPM, biologicals, biodiversity, genomics





UGA Entomology



- Program or mission areas: Teaching, Research, and Extension/Outreach
- 5 teaching faculty equivalents
- 15 research faculty equivalent plus 5 research faculty members
- 10 extension and outreach equivalents

Academic Programs

- BSES in Entomology – Flexible major in which student can focus in insect sciences, pest management, or environmental sciences/biology. – 20 to 25 undergrads
- MS – 20 students
- MPPPM (Master of Plant Protection Pest Management)-Program joint with Crop and Soil Sciences and Plant Pathology - 2-5 students
- Ph. D. – 25 students
- Entomology Faculty involved in Griffin and Tifton Campus Undergraduate Instructional Programs.



Research Program: Core Areas

- Research core programs – conducted by faculty at all three campuses
- Athens – Comprehensive, mainly basic
- Griffin – Primarily urban programs
- Tifton – Primarily agricultural (field crops, fruits and nuts, vegetables)
- Graduate students working in all program areas

Insect Host – Pathogen Int
Vector Biology

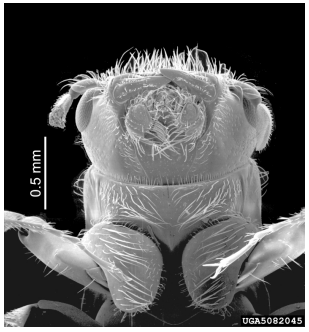
- Insect Host/Pathogen Molecular Biology
- BT (*Bacillus thuringiensis)* - Applied Biotechnololgy, Biological Control
- Mosquito Endocrinology/Genomics
- Insect Immunology
- Insect transmission of disease agents in animals and plants
- Host immune system modulation by insect vectors

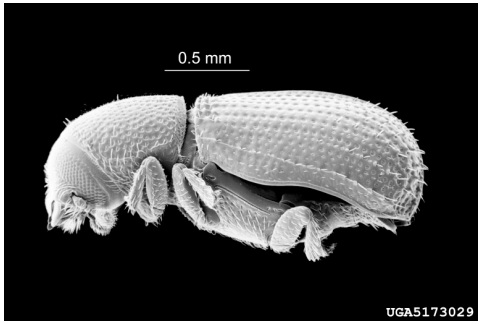
Urban Entomology

- Termites – Sociobiology, ecology and control
- Ants and other household pests
- Applied genetics of urban pests
- Green Industry pest management – Insect pests of ornamental plants and urban landscapes.
- Fire ants and pests of companion animals

Systematics, Taxonomy and Evolutionary Biology of Insects

- Coleopteran (Beetle) systematics and taxonomy.
- Thrips taxonomy
- Fire ants: Genetics and adaptation





Stream and Wetland Ecology and Environmental Toxicology

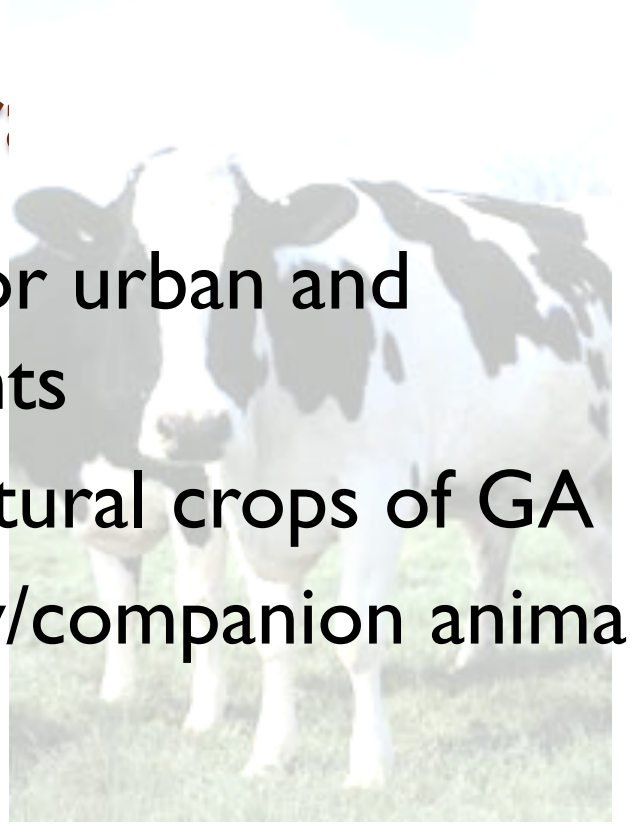
- Aquatic Insects and Stream Ecology
- Ecology of Wetland Invertebrates
- Biological Monitioring
- Aquatic Ecotoxicology
- Biologial Control of Vector Species (Black Flies and Mosquitoes)

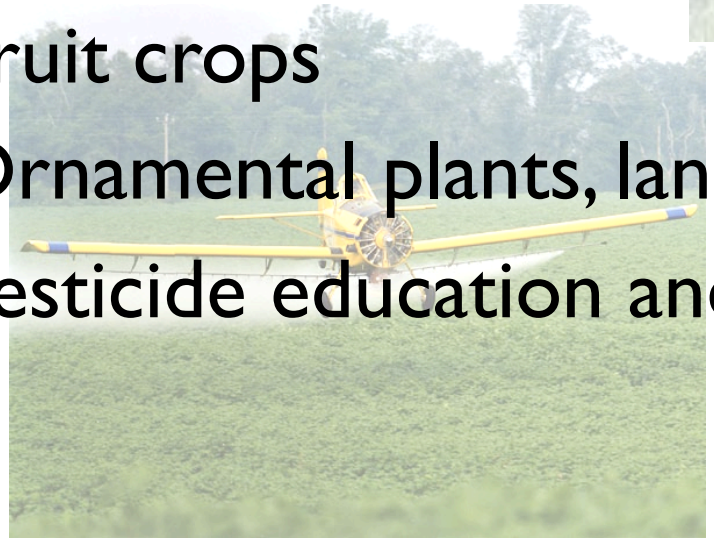
Integrated Pest Management and Biological Control

- Major GA Crops – Examples: Cotton, peanuts, pecans, fruit crops, vegetables, turf, ornamentals, corn and small grains
- Pests of forest crops and other natural resources
- Livestock and poultry pests
- Public health species – Examples: mosquitoes, fire ants, black flies, ticks,fleas

Extension Progr

- Insect management for urban and industrial environments
- IPM for major agricultural crops of GA
- Livestock and poultry/companion animal insect pests
- Fruit crops
- Ornamental plants, landscapes, and turf
- Pesticide education and safety programs





Educational Outreach

- Public Schools – Dozens of outreach programs for elementary, middle and high school students in greater Athens, Atlanta area (10,000 students per year)
- Community outreach programs – Annual events such as Insectival, 4H and park programs.

Career Opportunities

- University and College teaching, research, extension programs
- Federal and State agencies – Examples: USDA, EPA, USFS, State EPD, GA Dept. of Agriculture
- Industries: Chemical, Agricultural Consulting Companies, Pest Control
- Military Branches

Employment Opportunities & Beginning Salaries

- Excellent at all degree levels
- BS - $25,000 to $45,000
- MS - $35,000 to $60,000
- Ph.D. - $60,000 to $75,000