



The Entomological Society of America (ESA) is the largest organization in the world serving the professional and scientific needs of entomologists and individuals in related disciplines. Founded in 1889, ESA is a not-for-profit professional society with more than 7,000 members affiliated with educational institutions, health agencies, private industry, and government. ESA's public and science policy initiatives focus on conveying the importance of entomology in the following areas.

DISEASE PREVENTION

Entomological research is critical to limiting and preventing the spread of many insect-borne diseases.

- According to the U.S. Centers for Disease Control and Prevention (CDC), disease cases from mosquito, tick, and flea bites tripled in the U.S. from 2004 to 2016.
- Each year, an estimated 300,000 people are infected with Lyme disease, caused by bacteria transmitted through tick bites.
- Invasive *Aedes* mosquitoes are now widespread across the U.S. and threaten to set off outbreaks of dengue, chikungunya, Zika, West Nile virus, and other diseases.



MILITARY READINESS

Entomological research is critical for keeping U.S. military personnel safe from insect-borne diseases.

- Malaria, dengue, typhus, yellow fever, leishmaniasis, and other major diseases have affected the health and readiness of U.S. troops in every major conflict since the Civil War.
- Insects have caused more deaths in wars than have conventional weapons.



FOOD SECURITY

Entomological research is critical for increasing crop yields while minimizing negative impacts on the environment and helping national and global food security.

- The U.N. estimates the world's population will grow to 9.7 billion by 2050.
- Citrus greening disease, spread by an invasive insect called the Asian citrus psyllid, is threatening Florida's \$9 billion citrus industry and 76,000 jobs.
- Bees provide over \$200 billion in economic value to global agriculture and contribute to the production of an estimated 70% of all the food we eat or export. Entomology is needed to fully understand the complex challenges faced by bees, and to examine the diverse factors that endanger bee health.



BIOLOGICAL RESEARCH

Many genetic technologies were achieved by studying insects.

- The i5k Initiative aims to sequence the genomes of 5,000 insects and other arthropods to improve our ability to manage arthropods that threaten our health, food supply, and economic security.
- Pest suppression technologies that either reduce populations or keep pests from reproducing are critical components of maintaining public health, food security, and economic stability.



HOUSEHOLD PESTS

Entomological research is critical for controlling pests in homes, schools, restaurants, and throughout the built environment.

- The U.S. has seen an alarming resurgence of bed bugs due to their increased resistance to pesticides, increased human travel, and a lack of public knowledge about bed bug control. In fact, in 2018 the most-visited page on the EPA website was "Do-it-yourself Bed Bug Control."
- According to the EPA, droppings and body parts from cockroaches trigger asthma and can cause allergic reactions.



MUSEUM COLLECTIONS

Insect collections in museums are critical resources for many uses.

- Museum collections support identification services and help experts determine whether exotic insects intercepted by Homeland Security and the U.S. Department of Agriculture are native or invasive species and whether or not they are pests.
- Collections can also help enable the identification of beneficial insects that can be introduced as natural enemies to invasive pests.

