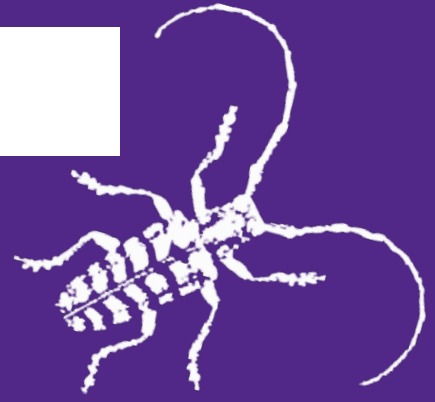


Kansas State University Extension Entomology Newsletter

For Agribusinesses, Applicators, Consultants, Extension Personnel & Homeowners

Department of Entomology
123 West Waters Hall
K-State Research and Extension
Manhattan, Kansas 66506
785-532-6154
<http://blogs.k-state.edu/kansasbugs/>
<http://www.entomology.ksu.edu/extension>



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News Corner

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NEWS CORNER

New Publication: Mosquitoes in Kansas



We have a new publication released on the K-State Research and Extension Bookstore called **Mosquitoes in Kansas** (MF3668 June 2024). This publication provides information on the biology and behavior, health risks, and management of mosquitoes. You can read the entire publication here:

https://bookstore.ksre.ksu.edu/pubs/mosquitoes-in-kansas_MF3668.pdf

Raymond Cloyd – Horticultural Entomology/Plant Protection

HOME

LEARNING CORNER

Supporting Bee Ecology One Photo at a Time

Kansas State University has released BeeMachine, a mobile application designed to revolutionize bee research and conservation through machine learning.

Headed by Brian Spiesman, assistant professor in the entomology department, and his team, the BeeMachine project aims to tackle the challenges faced in identifying bees and collecting data crucial to protecting pollinators. Bees play an indispensable role in our ecosystems, contributing to pollination and the health of plant communities. However, accurately identifying bee species has long been a complex and time-consuming task. With BeeMachine, anyone can have a powerful tool at their fingertips to aid in bee identification, significantly improving efficiency and accuracy.

The significance of BeeMachine extends beyond the scientific community. Citizen scientists and nature enthusiasts can now embark on an exciting journey to learn about the diversity of bees. While the app currently identifies the most seen 60 genera from around the world, the long-term goal is to make it a powerhouse in bee identification through citizen science contributions. By using the app, individuals can contribute to valuable datasets that track bee populations, enabling a deeper understanding of their distribution and conservation needs.

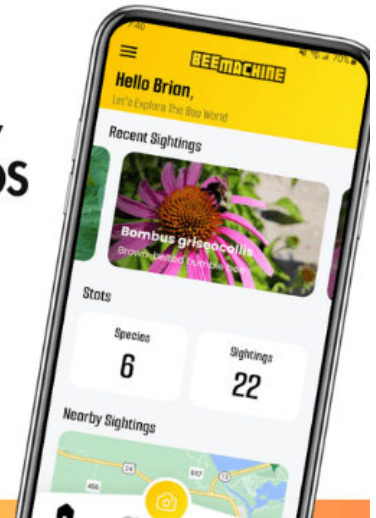
"Anyone can be a scientist," Spiesman said. "Our goal was to create an app that allows anyone to take a picture of a bee and instantly identify its species. We wanted to make bee research accessible, engaging and inclusive."

By actively participating in data collection through the BeeMachine app, users make a tangible impact on bee conservation. Bee populations can span vast geographic ranges, some ranging from Canada to Mexico or further. This makes it difficult for any single scientific study to cover such extensive territory. The app relies on crowdsourced data, enabling users to contribute to bee conservation efforts regardless of their location.

The BeeMachine app paves the way for modern, digital agriculture. Researchers are already beginning to utilize the app's capabilities, lending its algorithm to colleagues, and incorporating it into their ongoing studies. By using real-time data gathered from the app, scientists can observe how bees respond to changes in temperature, habitat and



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behavior. This cutting-edge technology opens doors to new discoveries and insights into the delicate balance of our ecosystems without having to use lethal sampling methods.

"The benefits of BeeMachine extend to the everyday person by safeguarding our food supply and the health of our natural surroundings," Spiesman said. "As bees face numerous threats, including habitat loss and climate change, it becomes imperative to raise awareness and actively participate in their conservation. By using the BeeMachine app, you join a global movement to save the bees and preserve the delicate balance of our ecosystems for future generations."

Download the [BeeMachine app](#) for Android or iOS. If you have comments or questions, or if you would like to contribute images or collaborate, visit beemachine.ai or contact Spiesman at bspiesman@k-state.edu.

Brian McCornack - Mobile technologies and digital delivery

HOME

Sincerely,

Brian P. McCornack, PhD
Dept Head & Professor
Field Crops
Kansas State University
P: (785) 477-0066
E: mccornac@ksu.edu

Raymond A. Cloyd
Professor and Extension Specialist
Horticultural Entomology/Plant Protection
Phone: 785-532-4750
Fax: 785-532-6232
e-mail: rcloyd@ksu.edu

[Need an insect identified? Visit the Insect Diagnostics Program Website](#)

Visit entomology.ksu.edu/extension to explore our extension resources.

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[What do you think about our newsletter? Send us your feedback here!](#)



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