



CERVIDAE HEALTH RESEARCH INITIATIVE

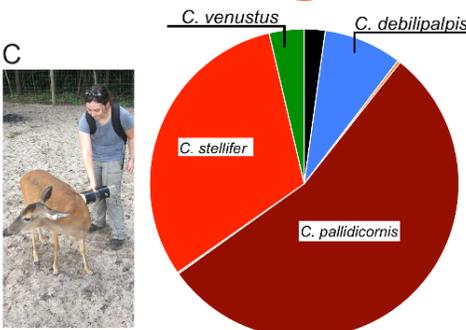
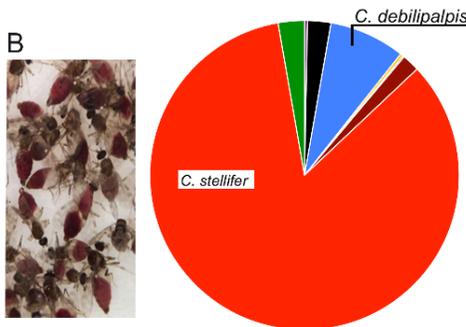
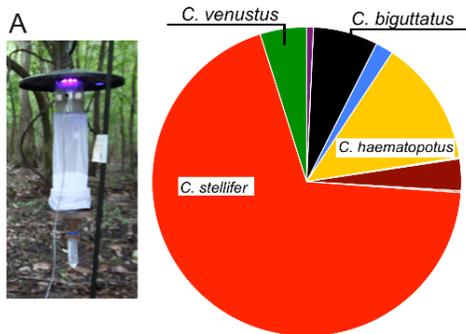
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Message from the Director

The 2017 legislative session was rough on everyone. Due to the hard work and enthusiasm of stakeholders in the deer community and UF IFAS administration, CHeRI received another year of funding from state legislators and the support of the governor. With this funding, we will continue to provide diagnostic services, work on vaccine development for epizootic hemorrhagic disease virus, and improve integrated pest management for Florida deer farmers. We have multiple events scheduled for deer farmers, deer vets and extension agents in the next 12 months. We hope to see you there!

Thank you, always, for your support - *Sam*

Dr. Samantha Wisely
Director, CHeRI



- *C. arboricola* ■ *C. biguttatus* ■ *C. debilipalpis*
- *C. haematopotus* ■ *C. insignis* ■ *C. hinmani*
- *C. pallidicornis* ■ *C. paraensis* ■ *C. stellifer*
- *C. venustus*

Finding the Culprit of EHDV in Florida

Understanding which midge species vector Epizootic Hemorrhagic Disease Virus (EHDV) to cervids is critical for creating integrated pest management strategies that curb the impact of EHDV. Florida does not have the midge species that causes EHDV throughout the rest of the United States, but the high prevalence of the disease in Florida indicates that there are one or more species that are competent vectors of the virus. Florida has more than 50 species of Culicoides, the type of midge responsible for transmitting EHDV, and researchers at CHeRI are working hard to determine which ones are the culprit. Each species has different habits – some lay eggs in tree holes while some prefer muck; and as UF IFAS FMEL Ph.D. student, Bethany McGregor is finding out, some prefer white-tailed deer and some avoid them, and how you trap them matters.

On a deer farm in the Florida panhandle, Bethany has been trapping Culicoides using CDC light traps (A), separating out the ones that have fed on blood (B), and aspirated them off of tame deer (C). One of the most obvious findings is that the most common species that feeds on white-tailed deer (C) is rarely found in traps (A). Had Bethany not aspirated those midges off the deer's hide, she would have missed a potential vector species of EHDV.

Bethany has just finished identifying the cervid species whose blood is most often found or not found in midges (B). Why do midges prefer some cervid species but not others? The results may help us find odor repellants that keep midges off deer!

Expanded Diagnostic Testing and New Findings

Dr. Katherine Saylor, Chief Scientist for Diagnostics at CHeRI, has added two new diagnostic tests to build our capacity for determining the cause of cervid mortality. In addition to regular screening for our target viruses, EHDV and BTV, we can now test for deer adenovirus virus and deerpox virus (also known as mule deerpox, but don't be confused by the name, it causes disease in white-tailed deer, particularly fawns!). Hemorrhagic disease caused by adenovirus may lead to the same symptoms in deer as EHDV and BTV. When animals have clinical symptoms suggesting infection with EHDV or BTV but test negative, we now test for adenovirus. We have also found deerpox virus on two farms in different parts of the state. In each case, lesions were found on the face and muzzle of fawns---we now have a diagnostic test for this pathogen! Lastly, we have identified an orthoreovirus as the cause of severe, watery diarrhea that has killed several fawns in Florida. Dr. Saylor is working with UF Extension Veterinarian, Dr. Juan Campos, to develop preventative medicine and treatment regimens for the latter two viruses.

Student Spotlight: Laura Harmon



Laura Harmon is a graduate student in the Dept. of Entomology and Nematology at UF working on improving integrated pest management for deer farmers in Florida. Laura's project will help us understand how deer farmers apply pesticides for the control of *Culicoides* and the virus, epizootic hemorrhagic disease (EHDV) that they carry. She will survey deer farmers around the state to establish what current practices are. Her laboratory research will focus on how these insecticides affect deer health and will determine if *Culicoides* are resistant to the most commonly used products. This information is essential to building a strong integrated pest management plan for *Culicoides* and EHDV in Florida.

Laura received her undergraduate degree in Wildlife Ecology and Conservation at UF in 2016, before deciding to pursue a Masters in Entomology. In between, she completed an internship where she worked with bed bugs, stable and horn flies. Her hobbies include spending time with her rabbit, Nala, knitting, and hiking.

New on the Website! – www.wec.ufl.edu/cheri

- **Proceedings of the 1st Annual CHeRI Science Symposium available.** Missed the symposium? Slide shows of all the presentations are available online.
- **Have a question about deer health?** Don't forget about our "Ask an Expert" page. We have veterinarians, entomologists, wildlife ecologists, virologists and medical geographers eager to answer your questions.
- **Useful links.** Great resources are available on wildlife forage and food plots, diseases of farmed deer, and managing natural resources on preserves. We have listed these sites with active links on our webpage.

Upcoming Events

Stay tuned! We will announce our Extension schedule soon. We plan on having a Field Day in Sumter County to help deer farmers with their integrated pest management. We are also working with forage specialists to plan a white-tailed deer forage workshop.

Contact Us:

Email: wiselylabuf@gmail.com

EHD Hotline Phone: 352-562-DEER

Website: <http://wec.ufl.edu/cheri/>

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