IBC COMMITTEE MINUTES
June 14, 2024
Virtual, 9:00 a.m.

MEMBERS PRESENT
Primary:

	Name	College
X	**Cassandra (Dawn) Pauling	r/sNA molecules, Biosafety, Animal Containment
X	Selene Nikaido	r/sNA molecules, Plant Expert
X	Deb Hudman	Community Representative/Non-Affiliate
X	Rachelle Beattie	Community Representative/Non-Affiliate
X	Cori Brown	Laboratory Facility Representative
X	William Kirby	Laboratory Staff Representative
	Philip Bridgmon	UCM Institutional Official (ex-officio)
X	**Kathy Schnakenberg	UCM Research Compliance Officer-Biosafety Adm (ex-officio)

**RCR Training Complete

MEMBERS ABSENT:

MINUTE TAKER: Kathy Schnakenberg

MINUTES
The minutes of 4/23/2024 were approved with/**without** revision. Motion to approved made by Selene second-Deb. Approved with a vote of 6/0.

PROTOCOLS APPROVED FOLLOWING REVISION

PI Name	Project Title	Date	Action

Business Items

Topic	Discussion	Action	Vote
Airflow-labs	Dawn reported that the labs are good to go with HEPA filtration-just awaiting certification.	N/A	

DOR	Dawn explained the DOR form would be created and available on the website	N/A	
Protocol Registration	Dawn clarified that IRB is only for human derived materials for research- this should be indicated on the form even in the case of student's conducting a self swab.	N/A	
July meeting	Dawn mentioned that the July meeting would be reviews for courses to ensure oversight	N/A	
Protocol Review	Dawn & Cori each recused themselves for their respective protocols. The committee decided on revisions for 2 and to table the 3rd until more information and research could be obtained.		
Adjourn	Deb made a motion to adjourn at 10:59-second by Rachelle		

PROTOCOLS REVIEWED BY COMMITTEE

PI Name and Title of Protocol: *Dawn Pauling, Surveillance for Pseudogymnoascus destructans (Pd) within cave hibernacula of Missouri bats*

Contact Information: pauling@ucmo.edu

Initial Review/ Continuing Review

Summary of Protocol:
White-nose syndrome (WNS), caused by the fungal species *Pseudogymnoascus destructans* (Pd) has rapidly spread within North America resulting in the death of millions of bats, species extirpation and population declines of 95% or higher in some instances.4 Bats play crucial roles as pollinators and in pest control, benefiting natural ecosystems and preventing the loss of billions of dollars in agriculture each year. It is necessary to understand the distribution of this fungal pathogen through continued surveillance efforts and relate this to species distribution of endangered bats. Determining presence or absence of Pd in known bat hibernacula, particularly in endemic areas of WNS, will provide opportunities for prevention or initiation of mitigating activities, such as establishing prey patches that potentially counteract the impacts of Pd infection.2 Previous research investigating spread patterns of Pd indicate that the fungal range expansion will reach all hibernacula in North America within a decade.

Specific Agent: *Pseudogymnoascus destructans (Pd)*

Associated risks: No known to humans

Containment process and levels:

Involvement of r/sNA molecules:

Conflicts of Interest:

PI Biosafety Training: IBC Chair completed 6-13-2024

Discussion [for each, indicate if controverted and resolution if controverted]
Issue 1: Experimental Design-Please clarify on #5-November-that research would only be conducted during a prohibited timeframe pending a permit approval.
Issue 2: Supply IBC with updated roster once all training has been completed by those listed.
Issue 3: Registration form-Other Potentially Infectious Materials-Materials are listed but checkbox is not marked.
Toxin-Name and quantity is blank, but checkboxes are marked-complete this section consistently.
Recombinant and Animal Use Information-Checkboxes are marked but "if yes" section is blank-complete this section consistently. If yes, please provide protocol.
Clarify materials & disinfection methods-water vs. Clorox wipes-wipes may not be effective

Clarify sampling process within the BSC for DNA extract and the PPE involved. A copy of the collection permit needs to be provided to the OSP office once obtained.
Documentation of Findings
Motion Deb **Second** Rachelle Description of Motion: Deb made a motion for the recommended revisions to be submitted to Interim Chair for review and final approval. If any substantial changes, protocol should return to full committee for additional review. Vote (For-4, Against-0, Abstain-2): Motion Passed/Failed 4-0-2, Total Voting = 4

PROTOCOLS REVIEWED BY COMMITTEE

PI Name and Title of Protocol: *Dawn Pauling, Tick and Tick-borne Pathogen Surveillance in Missouri Wildlife*

Contact Information: Pauling@ucmo.edu

Initial Review/ Continuing Review

Summary of Protocol:

Arthropods have been a known source of viral and bacterial pathogens for more than 100 years but there is a continual increase of concern regarding public health due to new pathogenic strains continuously emerging. The role wildlife plays in establishing annual tick populations, as reservoir species for pathogens, or even the potential pathogenicity of tick transmitted microorganisms in wildlife, are not well understood. Previous research has shown seroprevalence in wildlife to *Borrelia* spp., *Ehrlichia* spp., *Rickettsia* spp. (including *Rickettsia rickettsii*), *Francisella tularensis, Babesia* spp., and *Anaplasma* spp.. Furthermore, Missouri is one of a few states with the highest number of Tularemia cases and is within the top 40% of states for tick-borne illnesses (CDC). *Francisella tularensis* was identified in *Haemaphysalis leporispalustris* ticks pulled from Eastern cottontails in 1995-1996 and in 2005, however; no additional studies have been done to the best of our knowledge.

Specific Agent:

Associated risks:

Containment process and levels:

Involvement of r/sNA molecules:

Conflicts of Interest:

PI Biosafety Training: IBC Chair 6/13/2024

Discussion [for each, indicate if controverted and resolution if controverted]

Issue 1: Infectious Agents-Please list all 4 bacteria here and consistently throughout the protocol.

Issue 2: Animal-Derived Materials-Please include blood products from necropsy and ears from white-tailed deer.

Issue 3: Section 11-Infectious Agents-needs to be consistent with earlier infection agents listing.

Registration form-Needs to be consistent with risk assessment

Microorganism-Please answer all questions within this area

Human blood, cell lines, and/or tissues-Please complete checkboxes

Toxin-Complete name of toxin-and/or correct checkboxes

If student researcher is added in the future please provide the IBC with student added to roster and training marked.

Documentation of Findings

Motion Cori **Second** Deb Description of Motion: Cori made a motion for the recommended revisions to be submitted to Interim Chair for review and final approval. If any substantial changes, protocol should return to full committee for additional review. Vote (For-5, Against-0, Abstain-1): Motion Passed/Failed 5-0-1, Total Voting = 5

Meeting adjourned at _____

PROTOCOLS REVIEWED BY COMMITTEE

PI Name and Title of Protocol: *Dawn Pauling, Investigating mechanisms of vector competence of fleas for transmission of Yersinia pestis*

Contact Information: Pauling@ucmo.edu

Initial Review/ Continuing Review

Summary of Protocol:

The proposed work aims to understand the mechanisms of vector competence of fleas for transmitting bubonic plague caused by Yersinia pestis. Modern occurrences of plague continue to pose significant risks globally. In order to develop strategies to mitigate this disease, further research into the mechanisms of vector competency is needed. Previous studies have indicated selective pressures on Y. pestis virulence factors that are important for flea transmission. However, additional physiological and molecular responses in fleas that facilitate vector competency, such as immune responses and potential transovarial transmission, remain poorly understood. This research will investigate how the systemic responses of fleas to Y. pestis infection influence transmission competence. This work is part of a larger collaboration with the University of Missouri. Aim 2 of the provided document will be the primary focus but overlap will occur with Aims 1 and 3. A summary of the work to be conducted at UCM is provided below.

Aim 1: Identify transcriptional changes in Xenopsylla cheopis fleas post-infection and assist in validation of differentially expressed genes. The identified genes will be investigated further through gene knockdown experiments to determine function pre-infection, during infection, and post-infection.

Aim2: Investigate the impact of transovarial transmission on vector competence and bacterial persistence within flea populations. The life cycle of Y. pestis in chronically infected fleas and their offspring (F1 progeny) will be characterized. Whole genome sequencing will be used to determine genetic changes, if any, imposed by transovarial transmission. These changes will be further investigated through gene knockdown experiments to characterize the function.

Aim 3: Preliminary data indicates autophagy-related genes play a role in immune responses of fleas to Y. pestis infection. Immune genes that have been identified in cat fleas, C. felis, and are similar to genes identified in Drosophila melanogaster will be targeted and analyzed during infection using recombinant strains of Y. pestis. Expression pattern of autophagy-related and immune related genes will be mapped during infection to identify possible pathways regulating responses to infection.

Specific Agent:

Associated risks:

Containment process and levels:

Involvement of r/sNA molecules:

Conflicts of Interest:
PI Biosafety Training: IBC Chair 6/13/2024
Discussion [for each, indicate if controverted and resolution if controverted] Issue 1: How often will the fleas be counted? Daily? What is the next step if the count is short? Issue 2: How is PPE being discarded? What preventive methods are in place to prevent escape on clothing? Issue 3: Committee would like to view the Emergency Response Plan and the Lab & Biosafety checklist. After numerous questions were raised, the decision was made to table the protocol until the PI could be present for further questions and the forms were corrected so the protocol could be properly viewed. A meeting will be scheduled for July 1, 2024 at 9 am to review this protocol.
Documentation of Findings Protocol was tabled
Motion **Second** Description of Motion: Vote (For, Against, Abstain): Motion Passed/Failed 0-0-0, Total Voting = 0

Meeting adjourned at ____10:59 am_____