

# PROCEEDINGS OF THE OKLAHOMA ACADEMY OF SCIENCE

## Volume 102

### CONTENTS

#### **REPORTS**

##### **A. Applied Ecology & Conservation**

**1 Implementation of a Citizen Science Program to Assess Chytridiomycosis (*Batrachochytrium dendrobatidis*) Prevalence in Amphibians across Oklahoma, USA**  
*Mackenzie H. Nichols, Sierra N. Smith, Jessa L. Watters, & Cameron D. Siler*

**19 Population Characteristics of Channel Catfish in Meeker Reservoir, Oklahoma, a Small Impoundment**  
*Graham F. Montague, Richard A. Snow, & Alexis Whiles*

**29 An Investigation into the Effects of Elevated Water Hardness on Channel Catfish Egg Viability**  
*Austin D. Grier, Jory B. Bartnicki, Douglas L. Zentner, & Richard A. Snow*

**39 Ecology of the Harris Mud Crab (*Rhithropanopeus harrisii*) in Lake Texoma**  
*Shelbie Weaver & David Bass*

**47 Population Characteristics of Black Bullhead *Ameiurus melas* in Two Small Oklahoma Close to Home Fishing Ponds.**  
*Graham F. Montague, Michael D. Richardson, Olivia Knowles, Shelby E. Jeter, Douglas L. Zentner, & Richard A. Snow*

**57 Morphometric Analysis of the Harris Mud Crab (*Rhithropanopeus harrisii*) in Lake Texoma**  
*Shelbie Weaver & David Bass*

**63 First Record of *Aethycteron nigrofasciatum* (Harrises, 1962) (Monogenea: Dactylogyridae) from the Dusky Darter, *Percina sciera* (Swain) (Perciformes: Percidae), in Oklahoma**  
*Donald G. Cloutman, Chris T. McAllister, & Henry W. Robison*

**68 First Report of *Haemogregarina* sp. (Apicomplexa: Haemogregarinidae) from Razor-Backed Musk Turtle, *Sternotherus carinatus* (Testudines: Kinosternidae), from Oklahoma, with a Summary of Hematozoans from the Family Kinosternidae**  
*Chris T. McAllister & Henry W. Robison*

**73 Noteworthy Parasites (Apicomplexa, Cestoda, Nematoda, Acari) from Plains Leopard Frog, *Rana blairi* (Anura: Ranidae), from Southern Oklahoma**  
*Chris T. McAllister, Lance A. Durden, Stanley E. Trauth, Charles R. Bursey & Henry W. Robison*

**80 New Host and Distributional Records for Helminth and Arthropod Parasites of Birds (Aves: Strigiformes; Accipitriformes; Piciformes; Passeriformes) from Southeastern Oklahoma**  
*Chris T. McAllister, Lance A. Durden, & Henry W. Robison*

**B. Applied Health & Epidemiology**  
**92 An Analysis of COVID-19 Infection Rates among Native American Tribal Nations in Oklahoma**  
*Bethany D. Bengs & Jessica D. Brumley*

**C. Chemistry**

**105 Comparing Nucleophilic Substitutions Versus Elimination Reactions in Comprehensive Introductory Organic Chemistry Textbooks**

*Donna J. Nelson*

**115 Comparing Atomic versus Molecular Orbitals in Comprehensive Introductory Organic Chemistry Textbooks**

*Donna J. Nelson*

**D. Engineering Science**

**124 Women in Space: From Historical Trend to Future Forecasts**

*Sheela Duggirala, Hyacinthe Aboudja, Venkata Jaipal Bathula, Michael Howell, Richard S. Segall, Peng-Hung Tsai, & Daniel Berleant*

**D. Microbiology**

**132 Characterization of Mycobacteriophage Fulbright Isolated from Oklahoma Soil**

*Charmaine Lopez-Davis, Cameron Kedy, Ahmed K. Ali, & Hari Kotturi*

**142 2022 Technical Meeting Abstracts**

**ACADEMIC AFFAIRS**

**154 Officers and Section Chairs (2021)**

**155 Financial Statements (2021)**

**157 Membership Application Form**

**158 Editorial Policies and Practices**

**159 Instructions for Authors**