

# The OHIO JOURNAL of SCIENCE

AN OPEN ACCESS, ONLINE, INTERNATIONAL, MULTIDISCIPLINARY JOURNAL

Volume 121

January 2022

Number 2

<https://doi.org/10.18061/ojs.v121i2>



## The Ohio Journal of Science

DR. LYNN E. ELFNER, Editor

Copyediting and design by  
MR. PHILIP WINCHELL,  
STEM Education Support Services.

Manuscript submission guidelines:  
<https://ohiojournalofscience.org>

For technical questions about electronic  
formats or other submission details:  
Phone: 614-389-2182 • Fax: 614-389-2470  
Email: [ojs@ohiosci.org](mailto:ojs@ohiosci.org)

## The Ohio Academy of Science

Executive Director – MICHAEL WOYTEK

### OFFICERS

President – RODNEY SHEETS  
President-Elect – CHARLES FLOWER  
Past President – VICKI A. MOTZ, PhD  
Secretary – LYNN ULATOWSKI, PhD  
Treasurer – PETE HARLAN  
Jr. Academy Council Director –  
MARTIN ENGLISH, DVM

The Ohio Journal of Science has published peer-reviewed, original contributions to science, education, engineering, and technology since 1900. The Ohio Academy of Science produces two issues annually: (1) peer-reviewed April Program Abstracts distributed digitally and in print at the annual meeting; (2) peer-reviewed articles published as accepted throughout the year. The Ohio State University Libraries publish both issues Open Access online on behalf of The Ohio Academy of Science, 5930 Wilcox Pl., Suite F, Dublin OH 43016. <https://www.ohiosci.org>

Professional membership: \$75.

Printed in The United States of America.

## CONTENTS

### ARTICLES

- 2** New Record of Terminal Pleistocene Elk/Wapiti (*Cervus canadensis*) from Ohio, USA by Brian G. Redmond, David L. Dyer, and Charles Stephens
- 15** Reaction Times for Esport Competitors and Traditional Physical Athletes are Faster than Noncompetitive Peers by Anh Luu, Avory Winans, Rema Suniga, and Vicki A. Motz
- 21** Effects of Short-Term Exposure to Diesel Exhaust on the Ecophysiology, Growth, and Fecundity of Soybean (*Glycine max* (L.) Merr.) and Chicory (*Cichorium intybus* L.) by Susan Y. Jaconis, Theresa M. Culley, Timothy Keener, Alexandra M. Odom, Robert Elam, and Marissa S. Liang
- 33** A Spatio-Temporal Investigation of the Growth Rate of COVID-19 Incidents in Ohio, USA, Early in the Pandemic by Alessandro M. Selvitella, Liam Carolan, Justin Smethers, Christopher Hernandez, and Kathleen L. Foster
- 48** First Records of Freckled Madtom (*Noturus nocturnus*) in Ohio, USA by Matthew A. Sarver and Chris O. Yoder
- 56** Zinc Chloride Supplemented during Ovarian Tissue Vitrification Improves In Vitro Follicle Development and Fertilization in Pigs by Emma C. Hicks, Megan Martz, Haley A. Arena, Justin L. Rheubert, and Brian D. Whitaker
- 64** El Niño Southern Oscillation (1896 to 2016): Quantifying Effects on Winter Precipitation and Temperature in Southwest Ohio, USA by Robert W. Ritzi Jr., Lauren M. Roberson, and Michael Bottomley
- 78** Vertebrate Subfossil Localities in Taylorsville MetroPark, Montgomery County, Ohio, USA by Ryan Shell, Kristin Zimmerman, David Peterman, Charles Ciampaglio, Lauren Fuelling, and Stephen J. Jacquemin

### BACK MATTER

- 90** Letter to a Young Scientist by CAPT David Roberts, USN (Ret.)
- 93** Letter to a Young Scientist by Martin E. English, DVM, and Mackenzie E. English, MS
- 97** Book Review - *Malabar Farm: Louis Bromfield, Friends of the Land, and the Rise of Sustainable Agriculture*, 2021. Anneliese Abbott, Review by Gene Krebs
- 99** Book Review - *Problem Plants of Ohio*, 2020. Megan Griffiths et al., Review by Rachel A. Hackett, PhD
- 100** *In Memoriam* - Members of The Ohio Academy of Science

FRONT COVER PHOTO: Photo of Chicory by Lynn E. Elfner. See pages 21-32 for the article titled "Effects of Short-Term Exposure to Diesel Exhaust on the Ecophysiology, Growth, and Fecundity of Soybean (*Glycine max* (L.) Merr.) and Chicory (*Cichorium intybus* L.)" by Susan Y. Jaconis et al.