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Department of Ecology and Evolutionary Biology

EEB Monthly: July 2023



EEB Monthly is a department newsletter to be distributed at the end of each month. It will be used to share departmental information, remind team members of upcoming events, acknowledge various accomplishments, and keep us all connected between our different goals and responsibilities.

This newsletter is for your enjoyment, and to provide it, we rely heavily on

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Pam Diggle, Harrison Goodale, and/or the assistant email (eeb.assistant@uconn.edu).

In the News

A paper including six EEB authors, Robert Colwell, Thiago Rangel, Karolina Fučiková, Diego Sustaita, Gregor Yanega, and Alejandro Rico-Guevara, was featured in an edition of News from Science: Weekly Headlines: Some hummingbirds are flower robbers. Here's how to spot them

Kurt Schwenk was quoted in a June 21st *CT Insider* article about <u>increasing</u> human-bear encounters in the state.

Chris Elphick was featured in a story in CTPost, " What do grouper and vultures have in common? These animals are moving into CT as the climate warms"



In conjunction with their recent <u>article on tongue diversity and evolution</u>, Science has just posted a video interview with **Kurt Schwenk** highlighting his high-speed video work with amphibians and reptiles.

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Yaowu Yuan's NSF grant "Genomic and molecular bases of pollination syndrome evolution in monkeyflowers" has been funded!

Michael LaScaleia has been awarded a Conference Participation Award from The Graduate School!

Robin Chazdon has been awarded an Honorary Membership from the British Ecological Society!

https://www.britishecologicalsociety.org/bes-awards-2023-meet-the-winners/

Cindi Jones won the *Charles Edwin Bessey* Award from the Botanical Society of America. This is one of the highest honors bestowed by the society. It recognizes outstanding contributions made to Botanical instruction; individuals whose work has improved the quality of botanical education at a regional, national, or international level.

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Karolina Heyduk gave a lecture, "Up All Night to Understand the Evolution of CAM Photosynthesis" as part of the "**Emerging Leader Award**" from the Botanical Society of America.

This award is given annually to an early career scientist in recognition of creative and influential scholarship as well as impact in any area of botany reflecting the breadth of BSA. Awardees not only have outstanding record of accomplishments but also have demonstrated exceptional promise for future accomplishments in basic research, education, public policy, exceptional service to the professional botanical community.

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Publications

R.L. Chazdon. Taskforce on Best Practices for the United Nations Decade on Ecosystem Restoration. 2023. Capacity, Knowledge and Learning Action Plan for the United Nations Decade on Ecosystem Restoration. Rome, FAO. https://www.fao.org/3/cc6592en/cc6592en.pdf

Chao, A., S. Thorn, C. H. Chiu, F. Moyes, K. H. Hu, **R. L. Chazdon**, J. Wu, L. F. S. Magnago, M. Dornelas, D. Zelený, **R. K. Colwell**, and A. E. Magurran. Rarefaction and extrapolation with beta diversity under a framework of Hill numbers: The iNEXT. beta3D standardization. Ecological Monographs:e1588.

Solomon, G., A. Love, G. Vaziri, J. Harvey, T. Verrett, K. Chernicky, S. Simons, **L. Albert**, J. Chaves, **S. Knutie**. 2023. Effect of urbanization and parasitism on the gut microbiota of Darwin's finch nestlings. Authorea Pre-print. 10.22541/au.168848109.94982309/v1

Rodgers, M., and **DI Bolnick**. 2023. Opening a can of worms: a test of the coinfection facilitation hypothesis. Oecologia https://doi.org/10.1007/s00442-023-05409-7

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parasite relationship in the threespine stickleback. Oecologia https://doi.org/10.1007/s00442-023-05405-x

Shim, K.C., C. Peterson, and **D.I. Bolnick**. 2023. Local adaptation and host specificity to copepod intermediate hosts by the Schistocephalus solidus tapeworm. Ecology and Evolution 2023;13:e10155

Lee, Ho-Hyeon, Q. Xing, J. Park, H. Lee, **C. Yarish**, & J.K. Kim. 2023. Effects of different artificial photosynthetically active radiation (PAR) sources and intensity on the growth and nutrient uptake in Ulva prolifera and Neopyropia yezoensis. 92 (May), https://doi.org/10.1016/j.algal.2023.103151.

Jung, J.W., Q. Xing, J-S. Park, Y-J. Kim, **C. Yarish** & J.K. Kim. 2023. Physiological effects of micro-plastics on the red algae, Grateloupia turuturu and Chondrus sp. Aquatic Toxicology 261 https://doi.org/10.1016/j.aquatox.2023.106609 or https://authors.elsevier.com/c/1hEpS,3oDQuOaE

Wasson, D.E. H. Stefenoni, S. F. Cueva, C. Lage, S. E. Räisänen, A. Melgar, M. Fetter, M. Hennessy, K. Narayan, N. Indugu, D. Pitta, **C. Yarish** & A. N. Hristov. 2023. Screening macroalgae for mitigation of enteric methane in vitro. Scientific Reports 13:9835 https://doi.org/10.1038/s41598-023-36359-y

Walsh, J, LE Fenderson, **CS Elphick**, JB Cohen, **CR Field**, LK Garey, TP Hogman, AR Kocek, R Longenecker, KM O'Brien, BJ Olsen, KJ Ruskin, WG Shriver, and Al Kovach. Accepted. Surrounding landscape, habitat and hybridization dynamics drive population structure and genetic diversity in the Saltmarsh Sparrow. Ornithological Applications.

Barry A, SK Ooi, AM Helton, B Steven, **CS Elphick**, and BA Lawrence. Accepted. Carbon dynamics vary among tidal marsh plant species in a sealevel rise experiment. Wetlands.

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Attendees for the 2023 Botany Breakfast

Accomplishments

Charles Yarish et al. participated in the 77th Annual Meetings of The Phycological Society of America, Providence, Rhode Island, USA June 26-29, 2023: RECENT ADVANCES IN SEAWEED AQUACULTURE IN THE USA: FROM THE FARM TO BLUE FOOD

Kara Heilemann received one of the outstanding student awards for her poster at the national meeting of the American Society of Parasitologists: "No longer chambers of secrets: Characterizing the anatomy and mucosal surface of the spiral intestines of batoid hosts belonging to "tetraphyllidean" cestode Clade 4."

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Pen Pal Letters to a Pre-Scientist program are now open https://prescientist.us7.list-manage.com/track/click? u=c579455a9c1557ceef5fa6562&id=caaa6556c0&e=9e9e2aaeec

Register now, complete a virtual training in August, and then you see if you get matched to a pen pal (usually a middle-schooler) for the school year in September.

This coming fall, Current Topics in Biodiversity (EEB 5369, 1 credit) will focus on the topic of "Biodiversity and urban evolution." Covering topics such as urban biodiversity; "pre-adaptation" and rapid evolution; fragmentation as an evolutionary opportunity; adaptation to chemical, light, and sound pollution; the role of problem-solving adaptations, neophilia and tolerance of humans; sexual selection in urban settings; urban speciation; and much more! Class time to be arranged at the beginning of the semester. Open to BS/MS students, all graduate students, and advanced undergraduates. Please contact Miranda Davis if you are interested!

Bernard Goffinet and Janine Caira will be running a in person seminar this fall focused on specificity in symbiotic associations.

The seminar will be covering various types of interactions with participants encouraged to present the system they work one. The series may be complemented with invited speakers. The overall goal is to enhance awareness of the diversity of symbiotic associations such as lichens, mycorrhizae, and host-parasite associations, etc. and the patterns or drivers of specificity.

The 1 credit seminar (EEB 5895-007), open to graduates and undergraduates (contact Bernard for permission number) will be held weekly in person at a time and location to be determined.

If interested, please contact <u>Bernard Goffinet</u>. If your work focuses on a specific symbiotic interaction and you could present a 30 min or so talk, let him know asap!

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(Watch a short video here.)

This two-year, paid research fellowship is an exciting opportunity for students and research institutions that want to build a stronger relationship with the Connecticut National Estuarine Research Reserve (https://estuarineresearchreserve.center.uconn.edu/); our research, monitoring, education, and training programs; and national funding opportunities like the NERRS Science Collaborative.

Each Reserve has identified management needs that can be the focus of a fellow's research. You can browse a list of management needs identified by all Reserves <u>here</u>. At our Reserve, we are asking students to explore:

- Restoration and management of eelgrass, sea level rise impacts on natural and built infrastructure, and the role techniques such as living shorelines or thin-layer placement in marshes may play in mitigating climate-related impacts.
- A broadscale assessment of water quality or habitat integrity (particularly
 of eelgrass and marshes) within the reserve's freshwater and saltwater
 environments is requested to help make the link between nutrient loading
 and land-use data and eutrophication in the estuary.
- Blue carbon in coastal forests, marshes, and seagrass beds is a
 potentially valuable pathway for reducing greenhouse gases. Research
 and monitoring that assesses the boundaries, typology, and carbon
 sequestration capacity in these habitats is critical and will be helpful for
 evaluating preservation priorities, assessing the contribution of these
 habitats to the state goal, and setting restoration targets within the
 reserve area.
- Ecological and socioeconomic efficacy of nature-based mitigation strategies, as well as social science research to better understand the barriers to adopting these strategies.

Events

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tne **2023 Science Forum**: a day-long showcase for renowned scientists presenting on their latest research.

Thursday, October 26

Cruiseport Gloucester 6 Rowe Square, Gloucester 9am to 5:30pm

Space is limited. Register now! REGISTER FOR THE 2023 SCIENCE FORUM

Scheduled talks include:

"Mother Carey's Children - leveraging genomics and oceanic diversity for discovery" Matthew Harris, Harvard Medical School

"A genetically tractable jellyfish model for systems and evolutionary neuroscience"

Brandon Weissbourd, MIT

"Anthropocene genomic change in marine fishes"
Malin Pinsky,
University of California Santa Cruz "Genomic technologies to support the management & conservation of cetaceans large and small Kim Parsons, NOAA NWFSC

"Promises and pitfalls of genomic

forecasting"
Katie Lotterhos,
Northeastern University

"Exploring metal uses within marine organisms using advanced proteomic techniques" Mak Saito, WHOI

"Damselfish Neurofibromatosis: An animal model of the role of mitochondria in cancer"

Michael Schmale,
University of Miami

"Mapping the complexity of tissues with genomic microscopy"

Jeff Moffitt,

Harvard Medical School

"Rapid CRISPR-based diagnostics for detecting marine genomic signatures in animals and the environment"

Shelly Wanamaker, GMGI

Keynote address:

'Exploration of Biological Diversity"

Feng Zhang



Celebrate GMGI's 10th anniversary with the 2023 Science Forum: a day-long showcase for renowned scientists presenting on their latest research. Thursday, October 26th at Cruiseport Gloucester, 6 Rowe Square, Gloucester, from 9AM-5:30PM.

COVID-19 Resources









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