

## TABT UPDATES AND URLS OF THE WEEK FOR FEBRUARY 2024

### Item 1 – Science Update

Benjamin M. Moran, *et al.*, “A lethal mitonuclear incompatibility in complex I of natural hybrids”

(*Nature*, 625:7997, 1 February 2024, Pages (119-127) [OPEN ACCESS](#))

Analysis of naturally hybridizing swordtail fish species reveals a mitonuclear genetic incompatibility among three genes that encode components of mitochondrial respiratory complex I, providing insights into the emergence of hybrid incompatibilities and reproductive barriers.

Erick Lundgren, *et al.*, “Functional traits—not nativeness—shape the effects of large mammalian herbivores on plant communities”

(*Science*, 383:6682, 2 February 2024, Pages (531-537))

Large herbivores’ effects on plants depend more on their size and breadth of diet than whether they were introduced or native.

### Item 2 – Quote of the Week for 5 February 2024

“We have to make mistakes. It's how we learn compassion for others.” – *Curtis Sittenfeld, American writer*

### Item 3 – URL of the Week for 5 February 2024

BioEd Online – Baylor College of Medicine

BioEd Online offers a variety of free, interactive courses designed for science educators and other life-long learners seeking to increase their knowledge of key scientific subjects. Course offerings range from cutting-edge genetics to topical environmental health content and the fascinating science of water. Materials are sorted by topic, making it easy to locate the content most appropriate for you.

<https://www.bioedonline.org/online-courses/>

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### Item 1 – Science Update

**Dorothea Mylopotamitaki, *et al.*, “Homo sapiens reached the higher latitudes of Europe by 45,000 years ago”**  
(*Nature*, 626:7998, 8 February 2024, Pages (341-346) [OPEN ACCESS](#))

Through archaeological excavation, morphological and proteomic taxonomic identification, mitochondrial DNA analysis and direct radiocarbon dating of human remains, a study reports the presence of Homo sapiens in Germany north of the Alps more than 45,000 years ago.

**Qingqing Wang, *et al.*, “Plants distinguish different photoperiods to independently control seasonal flowering and growth”**

(*Science*, 383:6683, 9 February 2024, Pages (OL))

Myo-inositol regulates plant vegetative growth independently of flowering time in response to changing daylength.

### Item 2 – Quote of the Week for 12 February 2024

**"A man who dares to waste one hour of time has not discovered the value of life." – Charles Darwin, *English naturalist and geologist***

### Item 3 – URL of the Week for 12 February 2024

#### **HAPPY DARWIN DAY FROM NABT**

To celebrate Charles Darwin's 215th birthday, NABT has made this year's special “Darwin and Evolution” themed issue of the American Biology Teacher [free for download](#). You can also watch our recent NABT & NCSE Darwin Day Webinar, “[The Road to Extinction](#),” about the end of the Age of Dinosaurs.

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### **Item 1 – Summer PD Opportunity**

#### **UT Dallas Zebrafish Summer Institute**

The [Zebrafish Summer Institute](#) at UT Dallas offers a distinctive professional development opportunity for life science teachers of grades 6-12. In this hands-on immersive program, teachers will learn how to use zebrafish as an effective instructional tool. All teachers are supported with classroom supplies, curricular materials, and year-along mentoring. Application form: <https://forms.gle/ETwRQtvrULj1Btpc8> - **The application deadline is March 31, 2024** For any questions feel free to contact Vinita Hajeri, Director of Zebrafish Summer Institute at [Vinita.hajeri@utdallas.edu](mailto:Vinita.hajeri@utdallas.edu)

### **Item 2 – Science Update**

**Cara M. Winter, et al., “SHR and SCR coordinate root patterning and growth early in the cell cycle”**  
(*Nature*, 626:7999, 15 February 2024, Pages (611-616) [OPEN ACCESS](#))

Quantitative time-resolved microscopy analysis of SHR and SCR dynamics in single cells of living *Arabidopsis* roots shows that these transcription factors coordinate formative and proliferative cell divisions early in the cell cycle.

**Kelvin Wu, et al., “An antibiotic preorganized for ribosomal binding overcomes antimicrobial resistance”**  
(*Science*, 383:6684, 16 February 2024, Pages (721-726))

A synthetic molecule preorganized for bacterial ribosome binding is highly effective against multi-drug-resistant bacteria.

### **Item 3 – Quote of the Week for 19 February 2024**

**"If you want to be noticed, always do more than is expected."** – *William Post, American co-inventor of the Pop-Tart*

### **Item 4 – URL of the Week for 19 February 2024**

#### **Citizen Science - FlyTunes**

FlyTunes asks volunteers to listen to short excerpts of audio recordings captured near roads in the UK. The project aims to unveil the hidden soundscape of natural sounds beneath the constant hum of noise from traffic and voices. The audio recordings have been collected through a citizen science project that aims to investigate the impact of road noise on insects. To get started, visit: <https://www.zooniverse.org/projects/nhmcommunityscience/flytunes>

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### **Item 2 – Science Update**

**Violaine Saint-Andre, et al., “Smoking changes adaptive immunity with persistent effects”**

(*Nature*, 626:8000, 22 February 2024, Pages (827-835) [OPEN ACCESS](#))

It emerges from knowledge that smoking can alter the immune system in ways that persist long after quitting the habit.

**Claudia Brito, et al., “Transition of human  $\gamma$ -tubulin ring complex into a closed conformation during microtubule nucleation”**

(*Science*, 383:6685, 23 February 2024, Pages (870-876))

Cryo-electron microscopy structures provide insights into the mechanism of microtubule nucleation by the human  $\gamma$ -tubulin ring complex.

### **Item 3 – Quote of the Week for 26 February 2024**

**"Don't count the days. Make the days count." – Muhammad Ali, American professional boxer and activist**

### **Item 4 – URL of the Week for 26 February 2024**

#### **TeachHUB**

TeachHUB's mission is to improve the quality of education by providing K-12 educators with teaching strategies, lesson plans, classroom resources, real teacher blogs, and professional development, created by teachers for teachers.

<https://www.teachhub.com/>

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