

Working towards a model systematic treatment of a hyper-diverse lineage descended from early land plants (Frullaniaceae, Marchantiophyta).

Note: This is the first of two synergistic meetings relating to the central theme of an integrative systematic study of the liverwort genus *Frullania*. The project includes novel elements to help accelerate the pace of scientific discovery and reduce the taxonomic impediment. The first meeting, with the majority of participants from universities and colleges from the Chicagoland area, is focusing on education and outreach; the second meeting will include national and international collaborators focusing on research-driven goals and deliverables. Significantly, the first meeting will greatly aid in the goal of engaging students of partnering institutions to aid in capturing data; thus relieving some of the taxonomic impediment.

Connecting Biodiversity Research with Curriculum - Broadening the Human Resource with Student Participation

Working Towards a Model Systematic Treatment of a Hyper-Diverse Lineage Descended from Early Land Plants (Frullaniaceae, Marchantiophyta): Circular for Meeting One

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The following is a preliminary agenda and details about the first meeting, which is the Encyclopedia of Life Biodiversity Synthesis Center based at The Field Museum. Other sponsors include the National Science Foundation, The Mohamed bin Zayed Species Conservation Fund, Negaunee Foundation, The Field Museum, Chicago, U.S.A., and the Norwegian University of Science and Technology, Trondheim, Norway.

Conveners:

- Matt von Konrat (Dept. of Botany, The Field Museum, Chicago)
- Matthew Greif (Wilbur Wright College; Dept. of Botany, The Field Museum, Chicago)
- Thomas Campbell (Northeastern Illinois University, Chicago)

Venue: Biodiversity Synthesis Center, The Field Museum, Chicago, IL, USA **Dates:** Wednesday August 29, Thursday August 30, 2012

Time: 8.30am-5.00pm

Contacts: Anything relating to the content and subject matter of the meeting, or general questions, please contact Matt von Konrat <mvonkonrat@fieldmuseum.org>

Anything relating to logistics, such as parking, accommodation etc. please contact either Audrey Aronowsky <aaronowsky@fieldmuseum.org>, or Sarah Kim <skim@fieldmuseum.org> We give special thanks to Audrey, Beth and Sarah for all their efforts with logistics and organization

Participants:

• Laura Briscoe, Research Assistant (The Field Museum, Chicago)

• Michael Bryson, Associate Professor of Humanities and Sustainability Studies (Roosevelt University, Chicago)

• Thomas Campbell, Biology Instructor (Northeastern Illinois University, Chicago)

• Norbert Cordeiro, Research Associate (The Field Museum, Chicago); Instructor (Roosevelt University, Chicago)

• Beth Crownover, Director, Education Department (The Field Museum, Chicago)

• Michael Davis, Associate Vice Chancellor for STEM (City Colleges of Chicago)

• Nicholas Devos, Post Doctoral Research Scholar (Duke University, North Carolina)

• Doris Espiritu, Chair, Physical Science Department/Service Learning Coordinator (Wilbur Wright College, Chicago)

• Leonard Etlinger, Director for Grants and Contracts (City Colleges of Chicago)

• Matthew Greif, Instructor (Wilbur Wright College); Dept. of Biology (The Field Museum, Chicago)

• Joseph Hibdon Jr., Program Advisor, Student Center for Science Engagement (Northeastern Illinois University, Chicago)

• Jeff Janulis, Associate Dean of Instruction (Wilbur Wright College, Chicago)

• John Kasmer, Associate Professor and Chair, Biology Faculty (Northestern Illinois University, Chicago)

• Juan Larraín, Post Doctoral Research Scholar (The Field Museum, Chicago)

• Leilah Lyons, Assistant Professor Computer and Learning Sciences (University of Illinois, Chicago); Director of Digital Learning (New York Hall of Science, NY)

- Austin Mast, Associate Professor (Florida State University, Florida)
- David Marshall, Vice President for Academic Affairs (Olive-Harvey College, Chicago)

• Tom Moher, Associate Professor Computer Science, Learning Sciences, and Education (University of Illinois, Chicago)

- Greg Mueller, Vice President, Science and Academic Programs (Chicago Botanic Garden, Chicago)
- Kara Nuss, Biology Instructor (Northeastern Illinois University, Chicago)
- Blanka Shaw, Database Manager (Duke University, North Carolina)
- Tia Shelley, PhD Candidate (University of Illinois, Chicago)
- Arfon Smith, Director of Citizen Science (The Adler Planetarium, Chicago)
- Matt von Konrat, Adjunct Curator and Collections Manager (The Field Museum, Chicago)

• Norm Wickett, Conservation Scientist, Genomics and Bioinformatics (Chicago Botanic Garden; Northwestern University, Chicago)

• Nyree Zerega, Director, Graduate Program in Plant Biology and Conservation (Chicago Botanic Garden; Northwestern University, Chicago)

Synopsis of meeting (preliminary):

Day 1, Wednesday, August 29

- Introductions
- Individual/group brief presentations
- Round-the-table discussion
- Day 2, Thursday, August 30
- White Paper
- Specialist groups break-away session
- Specialist groups reporting/Group discussion

The Ecological and Biological Significance of Early Land Plants (Bryophytes): Bryophytes play a major ecological role. The small size of these organisms enables them to respond rapidly to environmental and ecological change offering them great utility in conservation science. They have been used as indicators of past climate change and as early indicators of global warming. A growing body of evidence also identifies liverworts as the earliest diverging lineage of land plants, so they are considered evolutionary very significant. Chemical compounds extracted from liverworts also exhibit important biological activity. For example, chemical extracts derived from *Frullania* species have been found to have cytotoxicity against certain cancer cell lines, and significant antimicrobial and antifungal activity

Detailed Agenda: Day 1, Wednesday August 29 8.30AM Breakfast

9.00-9.30 Introductions

- Encyclopedia of Life (EoL) to open with a few business matters
- Brief welcome by von Konrat and an overview of the two days
- Brief round-the-table introductions

Individual/group presentations

9.30-10.00

• Matt on Konrat (Field Museum)

o Brief background to early land plants; overview of project; introduction to original concept and pilot studies conducted.

10.00-10.30

Matt Greif (Wilbur Wright College/Field Museum)

o Matt Greif is an instructor at Wilbur Wright. Matt will provide an overview of his experiences and offer his perspectives of the pilot study conducted in his course.

10.30-10.45 Coffee/tea break

10.45-11.15

• Thomas Campbell (Northeastern Illinois University)

o Thomas Campbell is an instructor at Northeastern Illinois University. Tom will provide an overview of his experiences and offer his perspectives of the pilot study conducted in his course. 11.15-11.45

• Arfon Smith (Adler Planetarium)

o Arfon Smith is the technical lead of zooniverse.

o Arfon will provide an overview of zooniverse.org. The Zooniverse is home to the internet's largest, most popular and most successful citizen science projects.

o See www.zooniverse.org

11.45-12.15

Austin Mast

o Austin Mast is the lead member of the iDiGBio Public Participation in Digitization Working Group.

o Austin will be sharing his perspectives on citizen science and some background of the iDigBio project, especially as it relates to public participation in digitization.

o See https://www.idigbio.org/about for more about the NSF funded iDiGBio project.

12.15-1.15PM Lunch

1.15-1.45

• Oana Vadineanu and Lisa Murata (Northeastern Illinois University)

o Oana and Lisa are undergraduate students at NEIU. They will provide a students perspective on the project, their own experiences, and an overview of students evaluation of the project. 1.45-3.00

• Round-the-table discussion, led by von Konrat, Grief, and Campbell

3.00-3.15 Coffee

3.15-5.00

- Introduce following days session with break-away groups
- Outline & discuss objectives for white paper for possible publication

Day 2, Thursday August 30 8.30AM Breakfast

9.00-9.30

Brief synopsis of previous day (providing some background to those who could not be present previous day)

• Specialist break-away groups

9.30-9.45

• Leilah Lyons (University of Illinois, Chicago)

o Leilah Lyons is an Assistant Professor of Computer Science and Learning Sciences at the University of Illinois at Chicago as well as Director of Digital Learning at the New York Hall of Science.

9.45-10.00

• Doris Espiritu (Wilbur Wright College, Chicago)

o Doris Espiritu is Chair, Physical Science Department/Service Learning Coordinator. Doris will provide a brief account of service learning programs at Wilbur Wright College.

10.00-10.30

- Introduction to break-away groups
- Specialist break-away groups
 - o Research
 - o Technology

- o Graduate participation
- o Curriculum, science serive and application to classroom

10.30-10.45 Coffee/tea break

10.45-12.00

- Specialist break-away groups
 - o Research
 - o Technology
 - o Graduate participation
 - o Curriculum, science serive and application to classroom

12.00-1.00PM Lunch

1.00-2.00PM

• Reporting/discussion by specialist break-away groups

2.0-3.00

- Roundtable
 - o Problems and pitfalls
 - o Open discussion
 - o Funding

3.00-3.15 Coffee/tea break

- 3.15-4.00
- Towards a White paper

4.00-5.00

• Recap, Review, Regroup