

Emma R. Fryer
Curriculum Vitae

1009 N Fulton St, Apt. 3, Fresno, California 93728, USA
Phone: (559) 824-9678
Email: emmarfryer@gmail.com

EDUCATION

Bachelor of Science, Botany, *summa cum laude*. Humboldt State University (2016)

GRANTS, AWARDS, AND HONORS

2016 – Dennis K. Walker Award – Department of Biological Sciences, Humboldt State University. \$1000
2015 – Blanche G. Williams and Gertrude G. Graham Award – Humboldt State University. \$1000
2015 – PLANTS Grant – Botanical Society of America and National Science Foundation. \$970

PUBLICATIONS

1. Burnett, J. K., **E. R. Fryer**, C. R. Unger, and A.M.F. Tomescu. 2016. Pinaceous wood from the Lower Cretaceous (Barremian-early Aptian) of California, USA – Lower Chikabally Member, Budden Canyon Formation. *Ameghiniana*, 53(6): 685-694.
2. **Fryer, E.F.**, M.A. Afonin, B. Bomfleur, and A.M.F. Tomescu. 2016 (*in preparation*). A new species of *Protocedroxylon* from the Lower Cretaceous of California. Target journal: The International Journal of Plant Sciences.

PRESENTATIONS (* - with published abstract)

1. **Fryer, E. R.**, and A.M.F. Tomescu. 2016. Conifer wood from the Lower Cretaceous of northern California: implications for *Protocedroxylon* taxonomy. Botanical Society of America 111th Annual Meeting, Savannah, Georgia*.
2. **Fryer, E. R.**, and A.M.F. Tomescu. 2015. Early Cretaceous permineralized wood with araucarioid characters in the Budden Canyon Formation of California. Botanical Society of America 110th Annual Meeting, Edmonton, Canada*.
3. **Fryer, E. R.** 2019. Rare Lichens and Bryophytes. Caltrans Central Region Off-site Conference, Stockton, California.

WORK EXPERIENCE

Employment

HDR Engineering, Inc.– Field Biologist (October 2017- November 2019)

On-site at Caltrans Central Region Environmental. Provided staff augmentation and acted as a specialist environmental planner and field biologist for Caltrans Central Region Biology, preparing technical environmental documents, biological impact assessments, permit applications for Fish and Game Code Section 1602 Lake and Streambed Alteration Agreements, Clean Water Act Section 404 Nationwide Permits, and Clean Water Act Section 401 Water Quality Certifications. Prepared permit compliance reports, managed conservation and mitigation measure compliance, conducted biological monitoring, worker environmental awareness training, and mitigation monitoring and reporting, and planned, led, and reported for protocol- and reconnaissance-level surveys for threatened, endangered, and special status species.

Research Projects

Processing micrographs of an anatomical fossil of the dicksoniaceous fern *Onychiopsis* for 3D rendering and producing a 3D reconstruction of *Onychiopsis* vasculature. (With Dr. Alexandru Tomescu, Humboldt State University)

Taxonomic placement and description of a Lower Cretaceous araucarioid fossil conifer wood from the Budden Canyon Formation of northern California. (With Dr. Alexandru Tomescu, Humboldt State University)

Identification and description of a Lower Cretaceous pinaceous fossil conifer wood from the Budden Canyon Formation of northern California. (With Dr. Alexandru Tomescu, Humboldt State University)

Chemical analysis of *Apis mellifera*-collected pollen from Humboldt County, California. (In General Plant Physiology (BOT 310); Humboldt State University)

Collection and mounting of a sample flora of the disturbed areas and roadsides of Humboldt County, California. (Directed study with the Humboldt State University Herbarium and Dr. J.P. Smith, Humboldt State University)

Investigation into the effects of media sucrose content and gas availability on gemmae production by cultured *Marchantia polymorpha*. (Directed study with Dr. Casey Lu, Humboldt State University)

Metabolic comparison of culturable endophytic and epiphytic bacteria associated with *Chenopodium quinoa* seeds. (In General Bacteriology (BIOL 412); Humboldt State University)

Field Work and Survey Experience

Collecting Devonian plant fossils from Cottonwood Canyon, Wyoming – with Dr. Alexandru Tomescu (Humboldt State University; July 2017).

Botanical surveys: percent-cover, presence/absence, and protocol, following *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities*– with Caltrans Central Region staff (HDR and Caltrans Central Region Biology; October 2017 - Ongoing).

Relocation and transplantation of a population of Sanford’s arrowhead (*Sagittaria sanfordii*) in Cameron Slough, Fresno County, California – with Caltrans Central Region staff (HDR and Caltrans Central Region Biology; November 2017).

Protocol surveys for Swainson’s hawk (*Buteo swainsoni*), San Joaquin kit fox (*Vulpes macrotis mutica*), and blunt-nosed leopard lizard (*Gambelia sila*) – with Caltrans Central Region staff (HDR and Caltrans Central Region Biology; February 2018 - Ongoing).

Biological monitoring of migratory nesting birds, nesting raptors, and natal San Joaquin kit fox dens – with Caltrans Central Region staff (HDR and Caltrans Central Region Biology; February 2018 - Ongoing).

Small mammal trapping focused on: Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*), Fresno kangaroo rat (*Dipodomys nitratooides exilis*), and giant kangaroo rat (*Dipodomys ingens*) – with Caltrans Central Region staff, U.S. Fish and Wildlife Biologist Geoff Griswold (HDR, Caltrans Central Region Biology, and Pixley Wildlife Refuge; May 2018 - October 2018).

Volunteer Work

Mounting plant collections from the Central Valley region, processing and evaluating the lichen collection, and establishment of a bryophyte collection – with Dr. Katherine Waselkov and the Fresno State University Herbarium; October 2017 to present.

Rare plant status reviewer – with California Native Plant Society; March 2019 to present.

Workshops

Small Mammal Trapping Workshop – the Yosemite Audubon Society – with Melissa Odell, SCIN 11023 (Awhanee, California, May 2018)

Rare Plant Survey Protocols – with the California Native Plant Society (Imperial Beach, California, March 2019)

Wetland Delineation – with the Wetland Training Institute (Roseville, California, April 2019)

Poaceae – with Dr. Travis Columbus and the Jepson Herbarium (Berkeley, California, May 2019)

California Environmental Quality Act Impact Assessment – with the California Native Plant Society (Berkeley, California, October 2019)

PROFESSIONAL AFFILIATIONS

Botanical Society of America

SKILLS

Lab

Cellulose-acetate peel technique for plant fossil sectioning
Light microscope photography
Aseptic technique
Basic bacterial culture and media preparation
Basic plant tissue culture media preparation

Outdoor

Keying to species: vascular plants, bryophytes, lichens, macrofungi and microfungi
Basic map and compass skills
Backpacking and survival skills

Computer and Software

Basic Adobe Photoshop
Microsoft Office
Basic Arcmap/GIS

RELEVANT COURSEWORK

Genetics	Paleobotany
Ascomycetes & Basidiomycetes	Biology of the Microfungi
Plant Taxonomy	General Plant Physiology
Principles of Ecology	Lichens & Bryophytes
General Bacteriology	Brief Organic Chemistry
Botany	Evolution

REFERENCES

Dr. Alexandru Tomescu
Professor
Humboldt State University
Arcata, California, USA
amt32@humboldt.edu
(707) 826-3229

Marie Antoine
Lecturer
Humboldt State University
Arcata, California, USA
mea24@humboldt.edu
(707) 826-4151