

Chiricahua Trees Course

October 3-7, 2022

at

The Southwestern Research Station
Portal Arizona

Sponsored by the University of Arizona and The University of California in conjunction with the American Museum of Natural History.

Purpose

The trees course is an introduction to the ecology, field biology and utilization of desert adapted trees in landscapes. The goal of the course is to give attendees knowledge about how trees survive in nature and what lessons this teaches for cultivation of trees in urban and suburban landscapes. For those holding certified arborist credentials we offer 30 CEU's during this five day course.

Structure of the course

The course involves both field observation and classroom teaching. Each day will include lectures and field trips to unique habitats within the sky islands of South Eastern Arizona. The course will focus on tree adaptations to diverse environments, landforms, water resources, and relationships of trees to other organisms. Each evening after dinner will be keynote seminars by one of the faculty including night field trips to see wildlife that utilize trees at night.

SWRS—South Western Research Station
Is a field station of the American Museum of Natural History and provides lodging (dorm style) and meals each day of the course. SWRS is located in Cave Creek Canyon approximately 5 miles from Portal, AZ. It has a spring fed swimming pool, miles of hiking trails and is extremely quiet and retreat-like. The cost of the course per day is less than most annual meeting hotel rates and includes: lodging, program, and meals.

Registration

Course sign up is through the American Museum of Natural History. Cost: \$725.00 includes lodging and meals for the 5 night course. Arrive at the SWRS in the morning on Oct3 and depart after breakfast on Oct 8th. Instruction begins after lunch on Monday and ends with evening lectures on the

7th. Course information and an online registration form can be found at

<https://www.amnh.org/research/southwestern-research-station>

Early and late arrivals/departure is available for extra cost.

For more information about the course email Jim Downer at ajdowner@ucanr.edu



The Southwestern Research Station

SCHEDULE

Monday

- 8am – Noon Arrival SWRS. Have lunch! Time to explore the grounds and settle in.
- 1:00pm *Species diversity in the Chiricahua Mountains.* Dr. Michelle Lanan
- 2:00pm *An introduction to tree species found at SWRS.* Dr. James Downer
- 3:00pm -5:00pm *Sky Islands: Edaphic Alliances in the Chiricahua Mountains and Exploring the station grounds, creeks, canyons, and riparian woodlands.* Mr. David B. Kelley

Arizona madrone (*Arbutus arizonica*)



Monday cont.

7:00 pm-9pm Evening Seminars: *Soils landforms and geology of the Chiricahua Mountains* Mr. David Kelley and *Geology of the Southwest, Plant Communities in Isolation, Essential Elements and Soils.* Ms. Sonia Norman

Tuesday

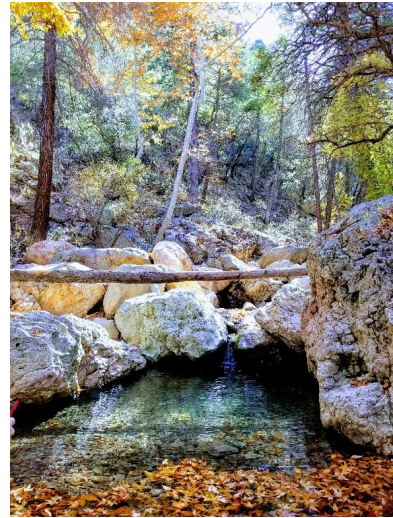
- 8:30-9:30am *Insects ants and other arthropods in trees of Chiricahua Mountains.* Dr. Michele Lanan
- 10am-Noon *Drought adaptation strategies for trees in the Chiricahua Mountains* Dr. Ursula Schuch
- 1pm-4pm Southfork of Cave Creek Canyon Walking laboratory, Tree identification, Geology and landforms, *Fungi in Trees...In the forest with Kevin T. Smith* and other instructors
- 7:00-9:00pm Evening Seminar *Fungi in the Chiricahua Mountains and their relationships to trees and their ecology.* Dr. Kevin T. Smith & Dr. James Downer
- Raptors in Cave Creek Canyon* Ms. Helen Snyder

Wednesday

- 8:30-Noon. Granite Gap field trip. *Trees in a desert Environment: Drought Survival and Monsoon Restoration.* All instructors
- 1:00–2:00pm *Dendrochnology, What it can tell us and what it can not.* Dr. Kevin T. Smith
- 3:00pm-5:00pm *Arid land oaks—Identification and adaptations.* Mr. Adam Black
- 7:00pm -10:00pm Ecology of cavity nesting birds in Cave Creek Arizona. Dr. Dave Oleyar, This includes owl observation after the presentation.

Thursday

- 8:30am *Repeat photography and post-wildfire recovery in the Sky Islands of Arizona.* Dr. James Malusa
- 9:30am-Noon Field Trip to Barfoot Park. *Conifer biology and taxonomy—Restoration of Aspen and Pinus post Horseshoe II fire.*
- Noon to 3:00pm *Fire recovery workshop continued: Fungi of Conifers* Dr. Kevin T. Smith.
- 3:00 -5:00 pm afternoon program TBA
- 7:00- 9:00 pm evening seminar TBA



The 'bathtub' on south fork of cave creek



The Chiricahua Monument

Friday

- 8:30 to 3pm Trip to the Chiricahua Monument. All instructors
Wonderland of Rocks and tree adaptations to Rhyolite geology.
- 7:00pm to 9:00pm Closing seminars
Using Desert Adapted Trees in urban landscapes. Dr. Ursula Schuch and Dr. James Downer
Xeriscape Without Exacerbating Your City's Heat Island. Ms. Sonia Norman.

Our Instructors

Dr. Arthur James Downer works at University of California as a plant pathologist and horticulturist Past President of Western Chapter ISA.

Dr. Ursula Schuch, is Professor and Cooperative Extension Specialist at University of Arizona. Woody plant Physiology and desert plant horticulture are her specialties

Mr. David Kelley is a Consulting Plant and Soil Scientist and certified arborist at Kelley & Associates Environmental Sciences, Inc.

Dr. James Malusa is a Research Scientist with the School of Natural Resources and the Environment at the University of Arizona, with 50 years of hiking experience in the mountains of southern Arizona.

Dr. Kevin T. Smith is Supervisory Plant Physiologist at the U.S. Forest Service Northern Research Station. He has a long term interest in tree biology, mycology and dendrochronology.

Ms. Sonya Norman is the Public Programs Coordinator at the Arizona-Sonora Desert Museum in Tucson. Sonya has a B.S. in Geosciences from the Univ. of Arizona. She has worked for two decades promoting Tucson tree plantings and rainwater harvesting.

Mr. Adam Black is a lifelong plant enthusiast with a passion for the rare, unusual and esoteric. Currently he is Assistant Curator and head of propagation at Bartlett Tree Research Laboratories

Dr. Michele Lanan is resident research scientist at the Southwestern Research Station. Her research involves how interactions with plants and microbes have shaped the evolution of ant morphology and behavior.

Dr. David Olyar is Director of Long-term Monitoring & Community Science for HawkWatch International. His research focuses on Owls in western states and in Cave Creek.

Ms. Helen Snyder is a resident biologist in Portal Arizona who studies raptors in Cave Creek Canyon.

Expected Knowledge Outcomes

This field biology course is augmented with seminars that inform the ecological adaptations of trees. Observing trees in nature illustrates their ecological adaptations and dependence on animals, soils and other plants. The incredible Chiricahua sky island ecosystem provides the laboratory to illuminate the lecture topics. Attendees will gain the following:

- New understanding of desert tree ecosystems
- The interconnected roles of birds, fungi and trees
- The effect of landforms, climate, soils and geology on tree growth
- Impact of Fire on tree ecosystems
- How monsoon adapted trees may be used in landscapes
- Intense discussions with scientists in the field leading to personal revelations about tree biology
- Design in nature. Learn how some very unusual plants grow with each other.
- The impact of tree ecosystems on human well being.

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