



# FERNS AND LYCOPHYTES: IDENTIFICATION, BIOLOGY, AND NATURAL HISTORY



2023 Eagle Hill  
Natural History  
Science Seminars  
on the coast of  
eastern Maine

**Instructors: Dr. Robbin Moran, Dr. W. Carl Taylor, and Dr. Alejandra Vasco**

**When: August 20th - 26th, 2023**

This course covers the identification, phylogeny, and ecology of ferns and lycophytes. Morning lectures will review the major families and place these in a phylogenetic context. The afternoon field trips will emphasize identification and ecology of local genera and species. The course will visit several habitat types along and near the eastern Maine coast to see as many species as possible. Herbarium specimens of northeastern species not found locally will be available for study. Besides identification, we will discuss the distinctive biology of ferns, such as their life cycle, hybridization, polyploidy, unusual adaptations (iridescent ferns, ant ferns, apogamy), biogeography, and uses of ferns by people. We will also discuss the sweeping changes that have taken place over the past ten years in understanding the phylogeny of ferns and lycophytes (for instance, why the term “fern allies” is no longer valid). Dr. W. Carl Taylor is a world expert on the biology and identification of quillworts (*Isoetes*),. Plan to get your feet wet and consider bringing challenging specimens.

**GENERAL INFO**

**CALENDAR**

**APPLY**

## about the instructors

**Dr. Robbin Moran** ([rmoran@nybg.org](mailto:rmoran@nybg.org)) is Curator Emeritus at The New York Botanical Garden. He has published four books and over 200 scientific papers on ferns. With Alice Tryon, he has written the *Ferns and Allied Plants of New England* (1997) and with Barbara Joe Hoshizaki, the *Fern Grower's Manual* (2001). He published *A Natural History of Ferns* (2004), which covers many aspects of fern biology and will be used as a text for the course. Robbin has traveled widely in Latin America and taught fern courses in Costa Rica, Venezuela, Ecuador, and Bolivia. During summers he co-teaches *Tropical Plant Systematics*, a five-week long course for in Costa Rica sponsored by the Organization for Tropical Studies.

**Dr. W. Carl Taylor** ([wcarl.taylor@gmail.com](mailto:wcarl.taylor@gmail.com)) completed his undergraduate studies at the University of Missouri and a Ph.D. in botany from Southern Illinois University. For many years, Carl worked at the Milwaukee Public Museum where he assisted with the development of exhibits, gave educational programs, conducted research, and served as Chair of the Botany Department. He is the author of the book *Arkansas Ferns and Fern Allies*. Carl has taught courses in general biology, plant taxonomy, and local flora at the University of Wisconsin, Milwaukee. He also served as a Program Director at the National Science Foundation for five years. Carl is now retired but he still conducts botanical research at the Smithsonian Natural History Museum.

**Dr. Alejandra Vasco** ([avascog@gmail.com](mailto:avascog@gmail.com)) studies the biology of ferns. Her main research interests are the taxonomy and systematics of the fern genus *Elaphoglossum*, and the development and evolution of leaves in ferns. Alejandra obtained her BSc from the University of Antioquia, in her native Colombia, and her PhD as part of the joint program between the City University of New York and the New York Botanical Garden. Currently, she is a researcher at the Botanical Research Institute of Texas in the USA. She is a native of Medellin, Colombia, and has extensive experience with American tropical ferns. She has participated in previous fern courses at Eagle Hill.