



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



2022 Eagle Hill  
Natural History  
Science Seminars  
on the coast of  
eastern Maine

**Instructors: Dr. Robbin Moran & Dr. W. Carl Taylor**

**When: August 21-27, 2022**



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the past ten years in understanding the phylogeny of ferns and lycophytes (for instance, why the term “fern allies” is no longer valid).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. Carl Taylor will discuss the biology and identification of quillworts (Isoetes), a group in which he is a world expert. Plan to get your feet wet and consider bringing challenging specimens.



**GENERAL INFO**

**CALENDAR**

**APPLY**

## about the instructors

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**Dr. Robbin Moran** (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) 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.