



# DIVERSITY AND BIOLOGY OF ANNUAL MOSSES



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

**Instructor: Bernard Goffinet & William Buck**

**When: June 18 - 24, 2023**

All bryophytes have a life cycle dominated by the vegetative gametophyte, but the gametophyte is not necessarily perennial. Mosses from across the diversity of the acrocarpous Bryopsida (those mosses with arthrodontous peristomes aiding in spore release) have adopted a shortened life cycle, whereby gametophytes reach sexual maturity rapidly, and develop a sporophyte, which may also exhibit an accelerated maturation. Some short-lived annual species complete their life cycle, from spore to spore, within a few weeks. Annual mosses occur on short-lived or seasonal habitats, and only on soil. Shortening of the life cycle is typically achieved by the simplification of the plant body, i.e., a reduction in architectural complexity, such that annual species develop un- or barely branched vegetative plants, and sporophytes may be simplified to immersed capsules lacking peristomes but with a differentiated mode of dehiscence. We aim for participants being able to study plants of the various lineages, primarily from collections made during the spring and during local excursions. The laboratory will focus on the identification of the species as well as provide an opportunity to survey the diversity of putative adaptations characterizing annual moss species. The laboratory time will be complemented with lectures highlighting the phylogenetic and ecological diversity of annual mosses and other bryophytes, and recent advances in our understanding of moss development and its relevance to understanding annual life cycles.

**GENERAL INFO**

**CALENDAR**

**APPLY**



## about the instructors

**Bernard Goffinet** ([bernard.goffinet@uconn.edu](mailto:bernard.goffinet@uconn.edu)) is Professor in Ecology and Evolutionary Biology at the University of Connecticut ([www.bryology.uconn.edu](http://www.bryology.uconn.edu)). His research focuses on the systematics of mosses, but extend also to population genetics, developmental biology and genome evolution. His current bryological projects focus on the evolution of the Funariaceae, Orthotrichaceae and pleurocarpous mosses. He has also contributed to the development of ecotourism with a hand-lens in the Cape Horn Biosphere Reserve in southernmost Chile. For his studies, he has sampled the bryoflora in North America, Asia, South Africa and Chile.

**William Buck** ([bbuck@nybg.org](mailto:bbuck@nybg.org)) is the Emeritus Curator of Bryophytes at The New York Botanical Garden. His main research interests are associated with understanding the relationships of different groups of mosses, especially pleurocarps (with creeping, branched stems and laterally placed spore capsules). To see living mosses in the field, he has traveled throughout much of North and South America, as well as to parts of Europe, Asia, Africa, Australia, New Zealand and Melanesia. As a result, he has a wide experience with morphological variation in mosses.