



Floracliff Field Studies

Conifers, November 3-4, 2012

Instructor: Rob Paratley, University of Kentucky Department of Forestry

Conifers and Conifer Forests—Natural History, Geography, and Evolution

Conifers are an ancient and very successful group of seed plants. Early fossils are 300 million years old; their peak of ecological importance and diversity was in the Age of Dinosaurs, from 225 – 90 million years ago. During this long span, they formed the majority of most forested ecosystems and reached their greatest diversity until they were supplanted by angiosperms in many biomes. Today they are represented by only 600 species worldwide, but have an ecological and economic importance far greater than this number suggests. Conifers make up the dominant component of many of the forested ecosystems of the world, and are among the most important suppliers of forest products and horticultural ornamentals. Among these 600 species are among the tallest trees (redwood, Douglas-fir), the most massive trees (giant sequoia), and the oldest trees (bristlecone pine).

In this workshop we will survey the families of living conifers, including some Southern Hemisphere and East Asian conifers that we don't often see in our region except as occasional ornamentals or in indoor conservatories. Important Northern Hemisphere families will be treated in detail, covering all genera and many important species. We will learn identifying characteristics, adaptations, and utility of many of these, including pine, hemlock, fir, spruce, Douglas-fir, larch, cedar, juniper, false-cypress, arbor-vitae, cypress, incense-cedar, redwood, giant sequoia, bald-cypress, dawn redwood, yew, and torreyia. We will review conifer evolutionary history, some controversial new ideas about their evolutionary relationships, and take a tour of many of the world's conifer-dominated forest systems—from Boreal peatlands to southeastern pinelands, from southeastern deep water swamps to arid pinyon pine-juniper woodland in Western canyon country, from the fog belts of coastal California and the Pacific Northwest to timberline in the Cascades and the Sierra Nevada.

We will visit the Lexington Cemetery to look at their collection of conifers. On the second day, we will travel to the Daniel Boone National Forest to look at native conifers. All participants will receive a book/resource of the instructor's choice.

Rob Paratley is the curator of the University of Kentucky herbarium. For the last 15 years, he has taught courses in the Department of Forestry, including Taxonomy of Vascular Plants, Silvics and Tree Identification, and Economic Botany.

The workshop starts at 9:00 a.m. on Saturday, November 3rd at the Winifred W. Haggart Nature Center at Floracliff Nature Sanctuary. Participants are encouraged to bring a 10x hand lens.