Faculty Hiring Proposal 2016-2017: Botany and Natural History

Position Description:

The Evergreen State College seeks to hire a botanist with a demonstrated passion for fieldwork and for herbarium work. We are looking for someone committed to building and curating our Herbarium in their area of expertise with advanced student researchers. The successful candidate will have a broad background in organismal biology and be trained in nested classification, alpha taxonomy, scientific nomenclature, and specimen preparation. Previous experience with database management is required, especially with herbarium databases. The successful candidate will teach natural history, evolution and ecology including at an introductory level, often in an interdisciplinary team teaching.

Our small liberal arts college maintains nearly 6,000 specimens of algae, plants, fungi, and lichens. As an institution specializing in interdisciplinary study, our climate-controlled Herbarium serves artists, scientists, and others studying local biodiversity. Prior experience in a climate-controlled herbarium or natural history museum that eschews pesticides is desirable. Skill in botanical illustration is also desirable but not required. The Evergreen State College is located on a 1000-acre campus with a variety of habitats including coniferous forests, riparian woodlands, and marsh vegetation. Many world-class national parks and refuges are located nearby. Biologists with experience and/or interests that include the conservation biology of plants, and effects of global climate change on biodiversity are encouraged to apply.

Evergreen organizes its curriculum through interdisciplinary studies (rather than through departments and courses), so the ideal candidate will show the potential for working across disciplines with faculty colleagues. Applicants are invited to address in their letters of application their vision of innovative approaches to teaching natural history in an interdisciplinary, collaborative, and inquiry-based approach. In addition to teaching, faculty members are expected to advise and mentor students and participate in Evergreen's system of shared governance. Through their participation in shared governance, faculty members play a significant role in college operations.

Minimum Qualifications:

- Ph.D. in Plant Biology or related field;
- Experience and training in herbarium based research;
- Ability to teach natural history; and
- Expertise in one of the following fields: bryology, lichenology, mycology, or phycology.

Preferred Qualifications:

- Scientific illustration and
- College level teaching experience highly desirable. □

A1. What is the specific hole that this position is designed to fill? Evidence of a hole in the curriculum may consist of, but not be limited to, a field of study in which we have repeatedly hired visitors, a field of study needed to support a repeating program or series of repeating programs, and/or a field of study that we are currently only able to consistently teach at a beginning level but should in your opinion offer at either an intermediate or advanced level as well.

Evergreen has a strong tradition of field-based natural history, also known as organismal biology. This historical strength of Evergreen is due in part to the curricular structure of full-time programs, which allow for extended field trips. Programs in botany have consistently high student demand, as demonstrated by full programs and waitlists in programs taught by term and continuing faculty; and by multiple, yearly, often last-minute hires of visiting faculty. Students complain of not enough offerings in field-based environmental inquiry; there is no redundancy in the curriculum in organismal biology.

At most universities and colleges, "biology" is now split into two or three departments, not including the applied divisions in health sciences and natural resources and conservation that often exist as distinct schools. Reductionist modes of inquiry in biology that focus on cells, molecules, and/or genes often enjoy greater representation particularly at research institutions. Sometimes scientists focused on organisms or populations, call themselves other things—evolutionary biologists, field biologists, field ecologists, taxonomists, systematists—but one of their main foci is biodiversity of some particular group. With this position, we will be recruiting a new faculty member from the latter group.

A2. How would this position reinforce and support our current curriculum? Evidence for this might include supporting or expanding a current curricular pathway, expanding the options for students to take programs in the field of study represented by the position (i.e. expanding our capacity in a popular field of study) or expanding our capacity regarding a particular skill set (writing, quantitative methods, field research, etc.). Or it might address increased capacity for interdisciplinarity and/or for expertise and interest in teaching/pedagogy.

The repeating programs Botany: Plants and People and Picturing Plants have consistently been very popular, typically with full waitlists. The successful candidate will help expand the capacity of these successful programs and develop compatible programs that increase upper division science options for students in plant science. Currently zoologists far out number botanists at Evergreen, leading to students with a focus on plants being under served.

Also, the successful candidate will come in with a passion for and experience in Herbarium based research, and will thus be an active contributor to and curator of our small but impressive collection. Large research museums, such as at Berkeley and Harvard, are centers for the study of biodiversity and natural history, attracting researchers from all over the world, but are generally off-limits to undergraduates. Having a small Museum at Evergreen offers our students unique opportunities to immerse themselves in the scientific study of biodiversity, to help build the Collections, and to participate in active intellectual discussions that naturally occur in a space dedicated to careful study.

Furthermore, scientists who have come of age in Museums typically have experience with interdisciplinary inquiry. Researchers from multiple disciples and international field

experience, often use research Natural History Museums, which reduces the intellectual provincialism that can sometimes occur in academia.

A3. How might the pedagogical interests, skills and experience that someone in this position would bring augment those already represented by current Evergreen faculty across the curriculum?

Not only would a botanist easily teach with any of our existing organismal biologists, geologists and chemists; but also with many artists (see: any number of successful biology and art programs), humanists in historical, philosophical, and literary approaches to nature, including folklore; and social scientists in economics and sustainability.

A4. How might this position advance general education goals across the curriculum?

Any high-quality Museum-trained field-engaged botanist will embrace the five foci: art and science, in particular, have long had an intertwined relationship in natural history, and all such programs serve to bring scientific inquiry into an explicitly liberal arts curriculum (1: interdisciplinary study); nearly all entomological studies are collaborative in nature (2: collaborative learning); field work reveals diverse strengths and weaknesses that are not visible in traditional classroom settings, allowing students to shine who might otherwise never find or reveal their strengths (3: learning across significant differences); scientific practice, regardless of topic, is inherently about assessing logical arguments on the basis of reasoned beliefs (4: personal engagement); and the movement between field and lab or Museum, or theory and empirical hypothesis testing, is a perfect example of how modern science, at its best (and lowest tech), links theory with practice (5).

C5. What specific opportunities for interdisciplinary teaching do you envision that a person hired for this position would have? How have faculty in your planning unit or elsewhere at the college already stated interest in developing interdisciplinary programs with a faculty hired for this position?

See answers to A3, and C6.

C6. What multi-faculty team/program(s) do you foresee that the person hired for this position would be teaching during their first year?

Depending on the year hired, this person could teach with (this is an abbreviated list):

- Frederica Bowcutt, in *Botany: Plants and People* or *Picturing Plants*
- Heather Heying, in *Symbioses*
- David Muehleisen, in *Practice of Organic Farming* or *Weeds and IPM*
- Pauline Yu, in *Picturing the Sea*

C7. Who among the current faculty would provide the person hired for this position with academic colleagues in or near their field? These colleagues would include people who could familiarize the new faculty with the opportunities at Evergreen for any specialized equipment, space, field opportunities etc. that the new faculty might need for teaching or professional development.

In addition to those listed in C6, at least the following: Ruth Hayes, Dylan Fischer, Paul Przybylowicz, to name a few.

C8. Briefly, what infrastructure will be necessary for instruction in this new field of study (i.e. special equipment, special spaces, language support, etc.)? Is that infrastructure already in place? If so, can it support another user?

In 2007, the college opened a state of the art, climate controlled Natural History Museum, which includes a Herbarium. The facility consolidated specimens of plants and animals in one location and increased access. Student and faculty interest in using this resource within interdisciplinary programs particularly between environmental studies and the arts has grown rapidly. To smoothly operate the Museum, we need more faculty with an active, long-term investment in its maintenance and growth. In this rare case, hiring more faculty will help maintain existing infrastructure, rather than tax it more.