

ANNUAL REPORT: June 1, 2009 – May 31, 2010
(i.e., Summer 2009, AY 2009-2010)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

NAME: ALEX WEIR

I. INSTRUCTIONAL ACTIVITIES

1. Regular Course Offerings

	<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>	<u>No. of Lab. Sections</u>
SUMMER:	EFB 500	Field Experience in Russia	4	10	0
FALL:	EFB 440	Mycology	3	48	2
	EFB640	Mycology	3	4	2

SPRING:

NOTE: PLEASE INDICATE WHICH COURSE(S) HAD A SERVICE-LEARNING COMPONENT AND BRIEFLY EXPLAIN THE NATURE OF THIS COMPONENT. For examples of service-learning in courses, see: <http://www.esf.edu/students/service/courses.htm>. Service-learning is a form of structured experiential education in which students engage with the community to be active learners, to enrich their sense of civic responsibility, and to explore practical application for course content. Faculty oversight, reflective thinking, and reciprocity are key components of service-learning. EFB courses currently listed with service-learning components include: 416/6/1, 486, 518, 521, 532, 446/646.

2. Non-Scheduled Course Offerings (e.g., 496, 899, 999)

	<u>Course No.</u>	<u>Title</u>	<u>Credit Hrs.</u>	<u>No. Students</u>
SUMMER 2009				
	EFB 899	Masters Thesis Research	1	1
FALL 2009				
	EFB 420	Internship Env. Forest Biol.	3	1
	EFB 495	Undergrad Exp. College Teaching	3	1
	EFB 498	Research Prob. Env. & Forest Biol.	3	2
	EFB 899	Masters Thesis Research	1	2
	EFB 899	Masters Thesis Research	4	1
SPRING 2010				

EFB 496	Study Abroad	12	1
EFB 498	Research Prob. Env. & Forest Biol.	5	1
EFB 899	Masters Thesis Research	5	1
EFB 999	PhD Research	4	1

3. Continuing Education and Extension (short courses, workshops, etc.)

4. Guest Lecture Activities

<u>Course No.</u>	<u>Title</u>	<u>No. of Lectures</u>
EFB 132	Freshman Orientation Seminar 2	
EFB 404	Natural History Museums & Modern Science	1

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 24 and unofficial advisor 8

B. Graduate Students: (Name, degree sought, starting date, month & year; if a degree was completed, please give date and full citation for the thesis or dissertation).

MAJOR PROFESSOR

Brienne Meyer, MS, completed August 2009. Heavy Metal Uptake in Adirondack Mushrooms.

Lauren Goldmann, MS, completed December 2009. Position Specificity in Laboulbeniales.

Jessica Gibson, MS, started June 2009

Lauren Goldmann, PhD, started January 2010

CO-MAJOR PROFESSOR

1. Ohnmar Myo Aung, PhD, 05/05 (co-MP with Kevin Hyde), Mushroom Research Foundation, Chang Mai, Thailand.

MEMBER, STEERING COMMITTEE (other than those listed above)

1. Brittany Cronk MS (major professor – Robin Kimmerer)
2. Wendy Park, PhD (major professor – Scott Turner)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

At least 3 times as Chair/Reader

III. RESEARCH COMPLETED OR UNDERWAY

A. Departmental Research (unsupported, boot-legged; title - % time spent)

Curation and examination of Thaxter's arthropod hosts – supported in kind through Harvard University Museum of Comparative Zoology - \$1000 per year for supplies. We have now prepared a database of this material for distribution to other specialists and have received loan requests during the past year.

B. 1. Grant-supported Research (source, subject, amount - total award and current year, award period starting and ending dates; list graduate research assistants supported by each grant)

National Science Foundation – Monographic Approaches to the Laboulbeniales, Subtribe Stigmatomycetinae and the Genus Stigmatomyces. NSF PEET (Partnerships for Enhancing Expertise in Taxonomy) Program.

Total Amount \$750,000,

Current Year \$150,000

Starting Date 1st January 2006 Ending Date 31st December 2010.

Two graduate students are currently working on this project. Lauren Goldmann completed her MS (December 2009) and is now continuing in the PhD program. Jessica Gibson (MS) started June 2010 and is making good progress with her use of Transmission Electron Microscopy in Laboulbeniales fungi.

National Science Foundation – Research Experiences for Undergraduates (REU) program.

Total Amount \$7000

Current Year \$7000

Starting May 2009 Ending 31st May 2010

This is supporting two undergraduate students, Amy Reilly and Luke Sarrantonio. Both students will be employed for the summer of 2009 working on a project linked to the overall aims of the PEET grant but focusing on mating behaviors in aquatic beetles. Some of these monies also went to support undergraduate Carrie Cimo who joined us on an expedition to South Africa and Namibia in March 2010.

National Science Foundation – Undergraduate Mentoring in Environmental Biology (UMEB) Program – Integrating Science and Stewardship in the Adirondacks. PIs Robin Kimmerer and Stacy McNulty. My dual role will be as Mentor and Facilitator during use of the Cranberry Lake Biological Station by students in this program.

Total Amount \$600,000

2. Research Proposals pending (include information as in B.1., above).

National Science Foundation – Renovation and Expansion of the Lodge at the Cranberry Lake Biological Station – submitted March 2010, \$250,000.

3. Research Proposals submitted, but rejected (include information as in B.1, above)

National Science Foundation – Renovation and Expansion of the Lodge at the Cranberry Lake Biological Station – submitted March 2009, \$350,000. Rejected (resubmitted March 2010 see above)

National Science Foundation – SBIR (Small-Business Innovation Research) Mycofiltration trials at Skaneateles Lake with Bluepoint Environmental – Funds requested - Rejected.

IV. PUBLICATIONS (Full bibliographic citation, i.e., do not use "with Jones," or "Jones, et al."; please list only publications published, in press, or actually submitted during this reporting period --- **do not list manuscripts in preparation**).

A. Refereed Publications

Rossi, W., and A. Weir (in press). New species of Stigmatomyces from Asia. Mycologia (accepted May 2010).

Thompson, L. and A. Weir (submitted). Laboulbeniales on Elateridae (Coleoptera); a review. Submitted to Mycologia

Goldmann, L. and A. Weir (submitted). Two new species of Ilyomyces from New York. Submitted to Mycologia

B. Non-refereed Publications

C. Papers Presented at Science Meetings (give title, date, occasion, and location)

| Position specificity of Laboulbeniales: a molecular approach to resolution of a century-old debate. Accepted poster, 9th INTERNATIONAL MYCOLOGICAL CONGRESS, Edinburgh, Scotland August 2010.

D. Public Service Presentations (lectures, seminars, etc. to and for the public; give group or occasion, date(s), and attendance)

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local):

2. Industrial and Commercial Groups, etc.

B. Unfunded Service to Governmental Agencies, Public Interest Groups, etc.

Poison Control Center, consultation with local physicians re: identification and treatment of mushroom poisonings (1 case Fall 09)

National Science Foundation Grant Application Reviewer (2 applications fall 2009/spring 2010)

Continued Liaison with Central New York Mycological Society

Participant NSF funded Assembling the Fungal Tree of Life (AFTOL) Program

VI. PROFESSIONAL DEVELOPMENT

A. Professional Honors and Awards (for teaching, research, outreach, etc.)

B. 1. Activities in Professional Organizations (offices held, service as chairman, member, participant or consultant)

Member, Mycological Society of America Distinctions Committee.

2. Professional Society Membership

Member, Mycological Society of America

Member, British Mycological Society

Member, International Mycological Association

3. Other Professional Activities

a. Editorial activity

Journal (s)

Responsibility

Other (books, symposia, etc.)

b. Reviewer

Journal(s)

No. of manuscripts

Mycologia

3

Agency

No. of proposals

National Science Foundation

3

Other

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.

Date

Place

C. Further Education/Re-training Undertaken, Leaves, Workshops, etc.

D. Foreign Travel (Where, When, Purpose)

White Sea Biological Station, Russia, June/July 2009, Exchange program (with 10 students) between ESF and Moscow State University.

Sundt's Finca, Costa Rica, February 2010, visit funded by College Foundation to assess building issues at the ESF Field Station.

South Africa and Namibia, March 2010, NSF-supported research collecting trip with 3 students (2 graduate, 1 undergraduate).

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

Director, Cranberry Lake Biological Station, 08/06 –

Curator of the EFB Herbaria appointed 09/03-

Member, EFB Promotion and Tenure Committee

Member, Field Programs Committee EFB

Active participant in EFB majors for Forest Health, Conservation Biology and Natural History and Interpretation.

Member, Lowe-Wilcox Award Committee

Chair, Zabel Award Committee

Chair, Morrell Award Committee

B. College-level

Director, Cranberry Lake Biological Station, 08/06-

C. University-wide, including Research Foundation

VIII. SUMMARY OF SIGNIFICANT ACTIVITIES AND ACCOMPLISHMENTS DURING THIS REPORTING PERIOD, ESPECIALLY THOSE MOST NOTEWORTHY AND RELATIVE TO THE COLLEGE'S AND DEPARTMENT'S MISSION. One paragraph on each of the following would be most helpful: this past year, what have you done for our students, department/college, and self professionally? NOTE: The information in this section (along with the supporting specific information elsewhere in this report) should be your strongest case for being considered for a discretionary raise, which I'll continue to award based on your contributions to the department and college this reporting period.

STUDENTS

This year I have again spent much time on the coordination and execution of international field experiences for our students. The party of 10 students going to Russia in June/July 2009 was the largest participation ever in this program, and facilitated an increased number of Russian students in attendance at Cranberry Lake Biological Station in August 2009. My regular Mycology (EFB 440/640) class also attracted a beginning enrollment of 63 students during Fall 09, again a record enrollment for this class, making it the highest enrollment introductory mycology class in the country. In addition to these regular teaching assignments, I have also had an increase in advising load, with more students enrolled in internships, study abroad opportunities, college teaching experiences, and independent research activities, than ever before. In addition, I have continued to serve students in my capacity as Director of the Cranberry Lake Biological Station, answering many questions and queries throughout the year. At the graduate level, I completed two MS students this past year, and started a new MS and PhD student in my lab.

DEPARTMENT/COLLEGE

My major contribution to EFB/ESF this past year has been my leadership role as Director of the Cranberry Lake Biological Station. Enrollments at the Station are still rising and we ran at almost full capacity for the summer of 2009, with similar enrollments expected for the summer 2010 program. Both the teaching and research programs were successful with almost 200 undergraduate students present at the Station during the summer of 09, and research groups from Indiana State University, as well as are own two Cranberry Lake Fellowship awardees, and four UMEB participants. The summer 2010 season shows an increase in research usage with the Indiana State University group, along with 3 Cranberry Lake Fellowship awardees, UMEB participants, and a newly-funded graduate "Grober Research Fellowship". My submission to NSF for funding for the Lodge renovations was unsuccessful, although it received good reviews. A resubmission of this proposal occurred in March 2010 and we should hear by September 2010 if this has been successful. We also received College funding this past year for a new Whaler, an essential addition to the fleet of boats at the Station.

Another important assignment this past year has been my membership of the EFB Promotion and Tenure Committee. In addition to regular meeting activities, I have also monitored the teaching of two of our beginning faculty and provided feedback to the candidates and to the committee.

I have also continued to serve the Department as Curator of the Herbaria, and as the contact point for international opportunities for our students.

SELF

This has been another good year on the NSF PEET grant with resolution of the phenomenon of "position specificity" arising from Lauren Goldmann's MS work. Lauren will be presenting the results of this work at the 9th International Mycological Congress in Edinburgh, Scotland in August 2010. In addition to this, we have also added many new sequences to our growing database for a phylogenetic overview of the order, including at least 7 new genera collected during our expedition to South Africa and Namibia in March 2010. We now have more than enough results for publication of at least 3 manuscripts and will begin these in Fall 2010. My new graduate student, Jessica Gibson, has also made much headway with her TEM investigation of these fungi and we are hopeful that this fine-structure work will complement the results from our molecular investigations.

IX. A. FUTURE PLANS, AMBITIONS, AND POTENTIAL CONTRIBUTIONS FOR YOUR OWN PROFESSIONAL DEVELOPMENT AND THE ENHANCEMENT OF THE PROGRAM IN ENVIRONMENTAL AND FOREST BIOLOGY (brief summary)

I would like to further develop my teaching and research interests over the coming years. I remain committed to the Cranberry Lake Biological Station program and will continue to expand and broaden our offerings here. The recent acquisition of new equipment, and major moves towards stimulating the further integration of research and teaching at the Station represent exciting ventures, that I hope I can capitalize upon with potential NSF funding this coming year.

Both the Russia and Ireland trips have been enthusiastically received by our undergraduate students, and there is obviously demand for these offerings. I would like to further integrate our international offerings with greater focus on tropical biology, through incorporation of our existing field station in Costa Rica, along with potential use of a station in Namibia. This past year I visited the Costa Rica station with Larry Rathman from Physical Plant. Larry carried out a facilities assessment and we identified potential local sources of construction materials and furniture. Dialogue continues with the College Foundation regarding upgrades to this Station.

My research program and particularly the NSF PEET project continues to develop with a great deal of new and interesting results this year. This grant expires at the end of 2010 although I do plan on asking NSF for a 1 year no-cost extension. This will allow for a number of manuscripts to be prepared and should set the stage for further grant submissions in the near future.

In summary, I am very excited at the possibilities for further growth in teaching, and scholarship and research available here at ESF. In future years I would be interested in contributing to a potential General Education course centered around microbes and fungi and in offering some more advanced mycology topics. The core of my research interests continue to be well-supported by NSF and I am beginning to branch out into other potential areas that could attract funding from different sources. I remain committed to further enhancing opportunities for research and teaching at the Cranberry lake Biological Station.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2010

a. Course(s) to be offered

**EFB-202 Ecological Monitoring and Biodiversity Assessment (2 sections, 148 students enrolled)
Section A – Genetics component, Section C – Fungi**

EFB 342 Fungal Diversity and Ecology (13 students enrolled)

b. Proposed research activity

NSF-PEET Award Research – Monograph of Stigmatomycetinae

c. University, professional society, and public service

**Director, Cranberry Lake Biological Station
Curator, EFB Herbaria**

2. Fall Semester 2010

a. Course(s) to be offered

EFB 440 Mycology (50 students pre-enrolled)

b. Proposed research activity

NSF-PEET Award Research – Monograph of Stigmatomycetinae

c. University, Professional society, and public service

**Director, Cranberry Lake Biological Station
Curator, EFB Herbaria**

3. Spring Semester 2010

a. Course(s) to be offered

Possibly an EFB-496 or 796 on Advanced Mycology - Ascomycetes

b. Proposed research activity

NSF-PEET Award Research – Monograph of Stigmatomycetinae

c. University, professional society, and public service

**Director, Cranberry Lake Biological Station
Curator, EFB Herbaria**