

**ANNUAL REPORT: June 1, 2013 – May 31, 2014**  
**(i.e., Summer 2013, AY 2013-2014)**  
**DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY**  
**SUNY-ESF**

**NAME: Stephen Teale**

**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 345	Forest Health (co-taught with J. Castello)	3	11	1
FALL:	EFB 352	Entomology	3	75	4
	EFB 552	Entomology	3	2	2
SPRING:	EFB 217	Peoples, Plagues and Pests	3	85	

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>
FALL:	EFB 420	Prof Internship/Envrn Biology	3	1
	EFB 797	Methods in Ins. Chem. Ecol.	1	7
	EFB 899	Masters Thesis Research	1,2,5	3
	EFB 999	Doctoral Thesis Research	2,2,4	3
SPRING:	EFB 498	Independent Research/EFB	2	1
	EFB 899	Masters Thesis Research	8	1
	EFB 999	Doctoral Thesis Research	5,9,2,	3

**II. STUDENT ADVISING**

A. Number of undergraduates for whom you are the student's official advisor: 15, and unofficial advisor 3

B. Graduate Students: (list 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

1. Daniel Cucura, MS, started Aug. 2009, completed December. 2013
2. Nicholas Helms, MS, started Jan. 2012
3. Kristen Doherty, MS, started Jan. 2013
4. Laura Hansen, PhD, started June 2012
5. Tian Xu, PhD, started August 2012
6. Alejandro Miele, PhD, started August, 2012

MEMBER, STEERING COMMITTEE (other than those listed above)

1. Jonathan Cale, PhD
2. Justin West, MS

CHAIRMAN ON THESIS EXAMS, ETC.

1. Ashley Ryan, MS, GPES

C. Postdoctoral Associates

1. Dr. Katalin Böröczky, beginning October, 2013

**III. RESEARCH COMPLETED OR UNDERWAY**

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

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)

1. USDA APHIS “Development of chemical attractants and improved trap designs to facilitate detection of exotic Cerambycidae” PIs: Millar, J.G., L. Hanks & S. Teale \$136,353 01-SEP-2012 To 31-AUG-2013 (**\$32,233** to SUNY-ESF).
  2. USDA APHIS “Development of chemical attractants and improved trap designs to facilitate detection of exotic Cerambycidae” PIs: Millar, J.G., L. Hanks & S. Teale \$140,000 01-SEP-2012 To 31-AUG-2013 (**\$31,986** to SUNY-ESF).
  3. Alphawood Foundation, PI: Teale, S. “Asian Longhorn Beetle Research at SUNY-ESF” \$ **61,407**; 25-FEB-2013 To 25-FEB-2015
  4. Alphawood Foundation, PI: Teale, S. “Asian Longhorn Beetle Research at SUNY-ESF” \$ **92,137**; FEB-2014 To FEB-2015
  5. USDA Forest Service STDP, PIs: Teale, S., J.D. Castello, J.G. Millar. “Fungal Attractants for *Sirex noctilio* and its Parasitoids” \$123,630 July 1, 2010 - June 30, 2014 (**\$42,000** in year ending 6/30/14)
  6. Galapagos Conservancy, PI: Teale, S. “Chemical attractants of *Philornis downsi*, an invasive avian parasite of the Galapagos Islands” **\$50,005** 01-JAN-2012 To 30-JUN-2013.
  7. McIntire-Stennis Cooperative Forestry Research Program, PIs: Johnston, M., S. Teale and J. Castello. “Fresh taste from a stale pickle: An alternative proposal of beech bark disease” **\$53,590** 15-AUG-2011 to 30-SEP-2013
  8. Helmsley Trust/International Community Foundation, PI: C. Causton. ~\$800,000/3 yr. **\$85,061** to ESF in year 1 (15-OCT-2013 To 14-SEP-2014).
2. Research Proposals pending (include information as in B.1., above).
    1. USDA-NIFA-AFRI. Ecophysiology of Beech Bark Disease: Assessing the Role of Inoculum Reservoirs). PIs: J. Castello, S. Teale, P.Chaverri. \$500,000
    2. Human Frontiers Science. Coevolution of host-parasite detectability and survival. PIs: S. Kleindorfer, S. Teale, L. Quackenbush. (letter of intent; invitations/rejections in June)
  3. Research Proposals submitted, but rejected (include information as in B.1, above)

1. NSF DEB. How did we transform a majestic forest tree species into a native invasive with serious ecological consequences? PIs: J. Castello, M. Johnston, R. Briggs, D. Burke, P. Chaverri, S. Teale (preproposal)

**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

1. Cale, J.A., Ashby, A.W., West, J.L., Teale, S.A., Johnston, M.T., Castello, J.D. (2014) Scale insects, decay, and canker fungi in American Beech. Forest Pathology (in press)
2. Cale, J., S. Teale, J. West, L. Zhang, D. Castello, P. Devlin, J. Castello. A quantitative index of forest structural sustainability. Forests. (Accepted with minor revision)

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

1. Yale Environment 360 – Quoted in article “In Galápagos, An Insidious Threat to Darwin's Finches” September, 2013
2. Video interviews (1) EEE and mosquitoes, and (2) Lyme disease and ticks for NCC News, Syracuse University

**VI. PROFESSIONAL DEVELOPMENT**

B. 2. Professional Society Membership

Entomological Society of America  
International Society of Chemical Ecology

3. Other Professional Activities

b. Reviewer

<u>Journal(s)</u>	<u>No. of manuscripts</u>
Environmental Entomology	1
Canadian Entomologist	1
Pakistan Journal of Botany	1

D. Foreign Travel (Where, When, Purpose)

1. Nanjing Forestry University, Nanjing, P.R. China, 3-17 July, 2013. To conduct field and laboratory research on chemical attractants of various longhorned beetles of concern to forests in the U.S.
2. Charles Darwin Research Station, Puerto Ayora, Galapagos, Ecuador, 12 March – 1 April, 2014.

**VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)**

A. Department-level

1. Promotion and Tenure Committee (member)

## **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 (**i.e., three paragraphs total**) 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 (when available), which I'll continue to award based on your contributions to the department and college this reporting period.

In the past year, I have secured \$209k in new research funds that, in combination with ~\$240k in previous but still active awards, has supported in part or whole, a postdoc, three PhD and two MS students and has enabled me to recruit a fourth PhD student. Research projects being conducted by my group include laboratory and field work on three continents (North America, South America and e. Asia) and address problems of concern to both biodiversity conservation and forestry. All of my current projects involve invasive insect pests. In Ecuador, the parasitic fly, *Philornis downsi*, is a serious threat to the endemic avifauna of the Galapagos Archipelago including the IUCN critically endangered mangrove finch. Our work with this parasite is supported by the Helmsley Trust and is focused on identifying pheromones and other attractants that can be used in support of environmentally harmless pest management strategies in this sensitive island ecosystem. Our work with longhorned beetles in China is focused on identifying pheromones and host odors that can be used to detect and monitor populations of the Asian longhorned beetle, which is established in the U.S., and several other damaging species that are considered to have high potential for future introduction to the U.S through international trade. Locally, a U.S. Forest Service funded project on *Ibalia leucospoides*, a parasitoid of the non-native, invasive Sirex woodwasp is investigating the chemical ecology of multi-trophic level interactions.

The highlight of my teaching activities this year was EFB 217 Peoples, Plagues and Pests. Normally, John Castello and I co-teach this course, but John was on sabbatical leave this spring semester so I taught the entire course (with the exception of a few guest lectures while I was in Ecuador). Because this is a non-western civ course, it is a great opportunity to integrate my research-related experiences in Asia and South America into teaching. Student comments in the End-of-Course survey indicated that the course opened their minds to other world cultures, the dangers of imperialism, the importance of history, and the interplay of culture and disease throughout history. The personal satisfaction that comes from not just changing what others know but how they think is priceless.

For the past two years, the EFB P&T committee has been struggling to revise the departmental P&T policies with the aim of making the process more transparent, objective and fair. It has been far more challenging than any of us could have imagined and has consumed an inordinate amount of time. Yet the positive impacts of getting it right cannot be overstated with regard to the future of the Department and the College. We had hoped to complete the revisions by the end of the academic year, and although this did not happen, we have made great progress toward formulating a set of revisions that the EFB faculty will ultimately support.

## **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)**

### **B. PROJECTED ACTIVITIES FOR NEXT YEAR**

#### 1. Summer 2014

a. Course(s) to be offered  
EFB 345 Forest Health

b. Proposed research activity  
Continuing with currently funded projects:

- i. *Philornis downsi* – Galapagos
- ii. Asian longhorned beetle
- iii. Exotic woodboring cerambycids
- iv. Parasitoids of Sirex woodwasp

c. University, professional society, and public service  
Principally, continuing with the EFB P&T committee

## 2. Fall Semester 2013

a. Course(s) to be offered  
EFB 351 Forest Entomology

b. Proposed research activity  
Continuing with currently funded projects:

- i. *Philornis downsi* – Galapagos
- ii. Asian longhorned beetle
- iii. Exotic woodboring cerambycids
- iv. Parasitoids of Sirex woodwasp

c. University, Professional society, and public service  
Principally, continuing with the EFB P&T committee

## 3. Spring Semester 2014

a. Course(s) to be offered  
EFB 217 Peoples, Plagues and Pests

b. Proposed research activity  
Continuing with currently funded projects:

- i. *Philornis downsi* – Galapagos
- ii. Asian longhorned beetle
- iii. Exotic woodboring cerambycids
- iv. Parasitoids of Sirex woodwasp

c. University, professional society, and public service  
Principally, continuing with the EFB P&T committee