



NORTH AMERICAN SECTION

# **NAS/IUSSI NEWSLETTER January 14, 2010**



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## **NAS/IUSSI Officers**

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President: John Wenzel  
President-elect: Terry McGlynn  
Past President: Blaine Cole

Secretary-Treasurer: Colin Brent  
Web Master: Jian Chen  
Archivist: Chris Starr

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Dear NAS members:

Bared midribs and broken limbs were featured at this year's ESA Conference, held in Indianapolis. Much like the 2008 NAS-IUSSI meeting in Puerto Rico that was concurrent with a gathering of Cub Scout troops, the Entomological Society shared the conference facility with a national cheerleading competition, with thousands of competitors ranging in age from 6 to 22. With such a surreally festive/energized environment happening in the midst of a decidedly staid entomological event, even I was tempted to slap on some glitter and pick up the pom-poms. The urge was especially pronounced when it was time for the symposium honoring Bert Hölldobler and Ed Wilson. For lack of appropriate apparel (sparkly bows were the big fad in cheering accessories this year, in case you were interested) and from seeing just how many competitors were getting hurt, I decided to refrain. Phone cameras might have also been a factor.

The honorary symposium, organized by Walter Tschinkel and Sanford Porter, was certainly the highlight of the meeting for me. This very well attended event featured great talks and a good deal of personal commentary from Bert and Ed. As the day progressed it became increasingly clear that the rest of us would be doing quite well if we could have a small fraction of the impact of these two luminaries. However, it was very evident that their academic progeny are no slouches either. Bravo! Patrick Abbott also organized a very interesting and well-attended symposium on group-living in social invertebrates which I found quite enjoyable.

The annual business meeting of the NAS-IUSSI was held during the conference and was also quite well attended. The first order of business was to present this year's winners of the Eickwort and Nutting Awards, which were Christian Rabeling and Thomas Chouvenc, respectively. Each was recognized for their outstanding contributions and presented with a check for \$1000. Andy Suarez presented the Eickwort Award and Mike Haverty presented the Nutting Award. You can find the official announcements at the end of this letter. It was also announced that this would be the last year that the Nutting Award would be a merit prize for work with termites. In 2010, the Award will take the form of a student research grant for \$2500, to be used in the study of Isoptera. Details on the new selection process are currently being hammered out by an illustrious panel of experts, but these will be announced in the next few months.

There was also some news shared about the IUSSI conference in Copenhagen ([www.iussi.org/iussi2010](http://www.iussi.org/iussi2010)) on August 8-14, 2010. The symposia have been selected and registration is now open. Registration can be done online, and to get the early responders rate, this needs to be completed by March 1. Submission of hardship grants will have to be completed by February 1. Symposium organizers have been allowed to choose two speakers in advance and the remaining (and limited) slots will be filled as registrants ask to be included. Anyone not selected to give a talk will be invited to present a poster. Blaine Cole and John Wenzel announced at the business meeting their success in securing \$10,000 in funds from the USDA to be used to support student travel awards. We are still awaiting word from NSF on a grant for a similar level of support. Details on the application process for these travel funds will be forthcoming.

Results of the NAS/IUSSI presidential election were also provided. Winning in a narrow victory, Terry McGlynn is our new president-elect and will assume his full responsibilities at the end of this year. He has promised a celebratory mixer at his house during the next ESA conference, which will be held in San Diego. Maybe we can just have our business meeting there...? In the meantime, John Wenzel has wrested the presidential gavel from Blaine Cole and will be the head honcho for the next 11 months. He is eager to hear of any complaints or problems you may have.

The following treasurer's report was then given by yours truly. In a nutshell, we are doing OK financially. This sets us up well for providing student travel funds to attend the upcoming IUSSI congress in Copenhagen. **I also want to remind everyone that it is time to renew memberships. This is particularly important to any students who might consider applying for travel funds.** I have attached the renewal form to this letter. Please be sure to submit your dues by February 22.

### Treasurer's Report

#### **INFLOWS**

Membership Dues	\$2912.50
Donations	355.50
<b>TOTAL INFLOWS</b>	<b>\$3268.00</b>

#### **OUTFLOWS**

IUSSI International (Capitation fees)	1240.00
Support for Hölldobler/Wilson Symposium	250.00
<b>TOTAL OUTFLOWS</b>	<b>\$1490.00</b>

Net Income/Loss	\$1724.74
Balance Forward	\$5708.45
<b>REMAINING BALANCE</b>	<b>\$ 7486.45</b>

<u>2008 Memberships</u>		<u>2009 Memberships</u>		
Total Regular Members:	112	Total Regular Members:	114	+2%
Total Student Members:	68	Total Student Members:	35	-49%
Household Members:	7	Household Members:	2	-71%
<b>TOTALS</b>	<b>187</b>	<b>TOTALS</b>	<b>151</b>	<b>-19%</b>

### **Nutting Award Fund**

Start Value (Oct 31, 2008)	\$18069.77
Contributions	\$12,027.50
Nutting Award	-\$1000.00
Plaque Cost	-\$62.92
End Value (Dec 31, 2009)	\$30,866.25

Net Value Change **+71%**

I had previously mentioned that I am trying “to promote levels of mutual awareness and public accessibility” by posting a brief (2-4 sentences) statement of each members’ general areas of interest on our website. I have only gathered 38 of these statements so far. I was hoping for substantially more. If you are willing to participate, please take the 5 minutes needed to prepare something intelligible and get the statement to me by the end of this month. After that I will be asking our webmaster to get them posted. I have also been introducing new members with these statements. Here is the latest batch:

Helena Puche: I have worked with subterranean termites with Dr. Nan Yao Su at the University of Florida, using fractal analysis to study the geometry of their tunnels under different environmental conditions. We discovered that subterranean termites are unable to detect wood over distance; instead, they build abundant tunnels at random until they hit a wood source. I also identified the effective sampling area of in-ground monitoring stations to capture subterranean termites in the field using mathematical modeling and field data. These results had important implications for termite pest management. Currently, at the University of Illinois at Chicago (UIC), I am using game theory and simulation modeling, based on empirical field data, to estimate how efficient are some insect pollinators at foraging and moving pollen between remains of plant populations that were formed by habitat fragmentation due to human activity.

That’s it for now. Please let me know if you should have any announcements you would like to make about upcoming events, grants, scholarships, job postings or other important developments. In the meantime, try to stay warm. I’m having to grapple with temps in the upper 60s and low 70s and it has been brutal.

Colin

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## Nutting Award Announcement

The recipient of the 2009 William L. and Ruth D. Nutting Award is **Thomas Chouvenc** from the Department of Entomology and Nematology, University of Florida Fort Lauderdale Research and Education Center in Fort Lauderdale, Florida. Thomas was selected for his body of work on the defense mechanisms in termites against the infection by pathogenic fungi.

Biological control of subterranean termites with entomogenous fungi was once considered a realistic goal. The original idea for the use of fungal pathogens, such as *Metarhizium anisopliae*, against subterranean termites was based on the assumption that the favorable soil environment, the social interaction of termites, the relatively high temperature and humidity in termite nests, and the self-replicating nature of the fungus would sustain infection and promote an epizootic. The literature is littered with laboratory studies that demonstrated the capacity of many soil fungi to kill termites, but few field trials, either positive or negative, have ever been published. Field trial usually failed and the failures have never been properly analyzed and reported.

Rather than continue to search for another pathogen, Thomas posed the following question: Why is it that entomogenous fungi cannot complete their life cycle and cause an epizootic in a termite colony? This led to a series of experiments that revealed termite defense mechanisms against entomogenous fungi at multiple levels, including chemical defense with fungicidal antibiotics in the gut of termites, cellular defense by encapsulation of fungal spores, behavioral defense by mutual grooming, avoidance, and burial of cadavers and/or necrophagy of infected termites. He concluded that these integrated defense mechanisms of termites against soil fungi are the result of natural selection through which termites co-evolved with these microbes. His results have taught us that if we are to successfully use soil fungi as biological control agents, we need to circumvent at least one or more of these defense mechanisms.

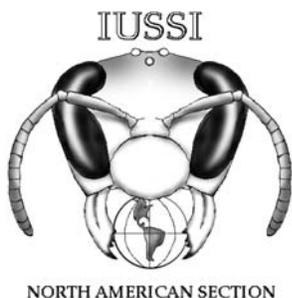
As the great-grand-student of the French biologist, P.P. Grasse, who established the foundation of modern termitology, Thomas looked at the biological problem with the eyes of a naturalist; a tradition that is gradually being lost among entomologists. Thomas has made an outstanding contribution to our understanding of the interaction between entomogenous fungi and subterranean termites, one of the most important urban insect pests. Because of his efforts, we are now one step closer to the biological control of subterranean termites, a dream that has been unrealized for decades.

### **George C. Eickwort Student Research Award**

This award is given in memory of George Eickwort and is designed to recognize exceptional research and scholarly activity by students in the field of social insect biology. The award consists of a certificate, an honorarium, and a one-year subscription to *Insectes Sociaux*. The Eickwort Award Committee this year consisted of Andy Saurez, Heather Mattila, Anna Dornhaus and Kenna MacKenzie.

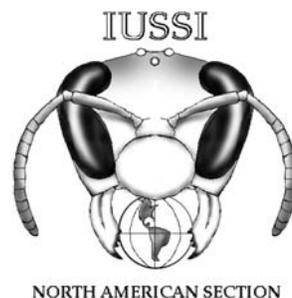
The nominees for the Eickwort Student Award this year were exceptional and as always, the final decision was hard to make. However, one individual stood out for his interesting and novel research, teaching achievements and outreach activities. The North American Section of the International Union for the Study of Social Insects is proud to announce that **Christian Rabeling**, PhD candidate, the University of Texas at Austin, was selected as the recipient of the 2009 Eickwort Student Award.

For his doctoral studies, Christian Rabeling, a student of Ulrich Mueller at the University of Texas at Austin, is studying the evolutionary biology of fungus-growing ants (Attini) with an emphasis the genus *Mycocepurus*, one of the poorly known "lower attine" groups. Integrating genetic, phylogenetic and population genetic approaches with traditional morphological and taxonomic methods, he has moved our knowledge of ant systematics and evolution forward. Notable among his research discoveries are the discovery and description of the oldest known living ant lineage, *Martialis heureka*; documenting the existence of obligate asexuality in the fungus-gardening ant *Mycocepurus smithii* and the discovery of the first obligate social parasite in "lower" fungus-gardening ants. His 2008 PNAS paper has changed the way we see the early evolution of ants; both E.O. Wilson and Barry Bolton (British Museum) cited this as a very significant finding. He is also a gifted teacher and mentor, an excellent field biologist, and has successfully secured funding for his research (nearly \$100,000 total). The Award Committee is very pleased to announce that Christian Rabeling is the recipient of the 2009 Eickwort Student Award.



**MEMBERSHIP RENEWAL 2010**

**INTERNATIONAL UNION FOR THE  
STUDY OF SOCIAL INSECTS  
NORTH AMERICAN SECTION**



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**Your dues must be received by February 22, 2010**

**NAME:** \_\_\_\_\_

**CURRENT ADDRESS:**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_

**FAX:** \_\_\_\_\_

**EMAIL:** \_\_\_\_\_

PLEASE **CIRCLE** YOUR CHOICE BELOW

**Regular Member: \$22.50    Student Member: \$9.00    Household Member: \$5.00**

Students – have your advisor or chair certify your status below

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Advisor's signature, printed name, & Title

**Donations (for Eickwort Award; Nutting Award; etc.):**

Intended Use: \_\_\_\_\_ Amount: \$ \_\_\_\_\_

Make check payable (in US funds) to NAS/IUSSI. Please send it and this form to:

**Colin Brent  
USDA-ALARC  
21881 N. Cardon Ln.  
Maricopa, AZ 85239**

For subscriptions to *Insectes Sociaux*, please contact [petra.stromberger@birkhauser.ch](mailto:petra.stromberger@birkhauser.ch)