

Lil'



Photo Credit: Dr. Claudia Husseneder

# Bugger

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The Entomology Club at LSU

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## Cover Photo

Caterpillars of lo moth on a Kahili ginger leaf in Dr. Claudia Husseneder's backyard at Bayou Paul. Dr. Husseneder said, "I experimented with exposure and flash to only light up the caterpillars and the rim of the leaf to infuse a little magic – making it look like the caterpillars are performing a tight rope act. Fortunately, caterpillars are patient models..."

**W**elcome to the first issue of the revised, remodeled, rehabilitated, reorganized and reinstated LSU Entomology Club newsletter, **the Lil' Bugger!** This newsletter was first published in 1996 as a means of communication between students, faculty, staff, and alumni of the LSU Department of Entomology. It highlighted research, public service activities, new graduates and retirees, and of course, club events and announcements for our department.

Although many of the original issues have been lost to the sands of time, in piles of ancient papers on our faculty's desks or as a snack for roaches and silverfish behind filing cabinets, our club was able to get our hands on one. I have to admit, I was initially a bit disappointed to see just a mere few pages of text and figures from clip-art. Then I

# We Are Back !



Credit: James Ottea

remembered that this issue was from 1996, and I immediately felt spoiled. Having grown up in the digital age with Photoshop, graphic design, scan, cut, copy, and paste, I had to remember what it was like navigating my first computer ever, a Windows 95. This nostalgic trip into the '90s rendered tremendous respect towards The Little Bugger, and I read it in a new light. It was like a time capsule on paper; a glimpse of what our department

was like exactly a decade ago! Though many of the names were unfamiliar, I was happy to read about some familiar faces, such as Dr. Gene Reagan, Dr. Gregg Henderson, and more. Reading about some of the recent graduates, I felt a surge of motivation as I fantasized about my graduation day: if these students did it, then so could I. I couldn't believe how just five mere pages of text elicited such a motivated and nostalgic

response. I realized it is important to record current events for both present and future readers. For this reason, we are proud to present the first issue of the new and improved "Lil' Bugger".

The Lil' Bugger will be published tri-annually, at the end of each semester. It will serve as a means to communicate announcements, awards, stories, research, club activities and outreach. We'd like to show the creative side of the department by sharing student work, photographs, art work, T-shirt designs, cartoons, etc. We encourage anyone to send contributions, comments, or suggestions to [lilbuggerlsu@gmail.com](mailto:lilbuggerlsu@gmail.com). We hope you enjoy the newsletter! To quote the original editor, "read it, save it, it will be a collector's item someday".

--- Alana Russell

## We are Having fun !



Credit: James Ottea



A. Emily is holding our club scorpion in Ag-Magic; B. Presentation of awards at 6<sup>th</sup> Entomology Grad Symposium; C. We are cheering at the Football Tailgate; D. Vivek and Emily are presenting bugs in AgMagic; E. We are collecting bugs with a black light.

## New Faculty

### - Dr. Daniel Swale

Dr. Swale is our newest and youngest faculty in the department. He is an excellent mentor and researcher.

Recently he traveled to Kenya. Let's get to know Dr. Swale!

#### - What brought you to LSU?

First and foremost, I thought I would fit in with the department. People would like to go to somewhere they are respected. After interviewing and talking with the faculty and administration here, I think there is a very tight family atmosphere where everybody is respected. Second, the department and LSU has fantastic scientists that facilitate the development of a large, collaborative research program on various topics. The ability to get along with the individuals in the department as well as have the opportunities to collaborate on a variety of research topics was the initial draw for me to come to LSU. On top of that, and equally as important as the environment, Louisiana is a sportsman's paradise with TONS of fishing opportunities. Fishing has been a hobby of mine since I have been able to hold a pole. I definitely love fishing and am always trying to find a way to get on the water. So I'm at home here. Actually, Mike Becker and I had a fish fry for the department in April.

#### - What is most satisfying about your job?

I think everybody who goes into academic research has the ultimate goal to cultivate young scientists' minds. That is awesome and a very rewarding aspect of our job. I look forward to teaching students how to do science and watching the proverbial "lighting up of the face." Also, I like to have the academic freedom to do the science that I want to do. If you see a problem and see a potential solution, just go for it. Nobody is there to stop you like they are in industry or government research jobs. I like that freedom.

#### - What's the most fun you've had at LSU so far?

It's been fun to get to know different faculty members and talk research ideas with them. But, exploring the Louisiana coast for redfish and trout pockets is definitely some of the most fun I've had thus far.

#### - How did you get your master's and PhD in four and half years?

There are a thousand answers to this question and I think some of it is easily answered with, "I got lucky." But, I believe that each individual makes his or her own luck and to do that, I worked tirelessly in the lab. One thing that allowed me to progress very quickly is that I

always had multiple and different projects going simultaneously that were supported by my major professor, Dr. Jeff Bloomquist. At Virginia Tech, I would work on the project that my advisor wanted me to during the day. But, I would come into the lab at night, put a 6-pack of beer in an ice bucket, and then explore my own research ideas

Foundation, working with Dr. Kristen Healy to identify novel mechanisms of control for the malaria vector, *Anopheles gambiae*. The studies proposed in this application will explore cost effective approaches to develop novel attract and kill strategies for the malaria mosquito. This multidisciplinary project will utilize very recent



at night. These additional projects allowed me to carry an independent project into the University of Florida and hit the ground running. Also, science is a game of handshakes. It matters who you meet and who you know. Meeting people and presenting your research in scientific meetings is critical to the growth of students as these people will be the individuals on job search committees, grant review panels, and potential research collaborators. Being able to present your work is great, but going out to have some supper or a beer with some of the biggest players in science really helps set you up for success.

#### - What do you hope to impart to your students before they graduate?

I hope to impart a passion for the physiological sciences and to help the students realize their scientific potential that will enable them to fulfill their ultimate goals. I think the cliché, "work hard and play hard" is true. I'm a firm believer that if you are not happy then your work is going to suffer. So, make sure your work is taken care of but, life is fun so go enjoy it. If Disneyworld is your thing, go to Disneyworld. If fishing is your thing, then get on a boat and go catch some fish. As young graduate students, keep your minds open. Read a lot of literature, read as many papers as you possibly can. And go to meetings and talk to people.

#### - What is the purpose of this Kenya trip?

I got a grant from Bill and Melinda Gates

developments in *Anopheles gambiae* specific attractants, novel potassium channel mosquitocides, and the unique horizontal transfer abilities of insect growth regulators to specifically target larval and adult lifeforms of *Anopheles gambiae*. This time we went to Africa, we built all the environments that we will be going to do the study in. We also developed a team there. The purpose of this project is to get preliminary data which may be put into actual environment in western Kenya to control malaria.

#### - What do you think of Kenya?

Kenya is awesome. Kenya is an ecologically diverse country. You can start at the beaches which are among the top 10 beaches in the world, according to something I read. Then you come over to Nairobi that is 1600 meters in altitude. So it is cool, very green and gets a lot of rain. 50 kilometers to the west of Nairobi, you will get into the rift valley which is dry and arid. Then you can back up to the highland and get over to Lake Victoria, which is a tropical rain forest climate. You can see grassland relating animals like lions and zebra. People oftentimes are very nice and very very hardworking.

--- Zhilin Li

## Experienced Faculty

### - Dr. Gene Reagan

In early February, I had the tremendous opportunity to sit down and speak at length with Dr. Reagan. He'd prefer it if you call him Gene. Here are some of the highlights from that conversation.

#### - **When did you know you wanted to be a professor?**

Almost from the start of my education. After I finished my master's, before my PhD, I thought about being a sugarcane consultant. I would advise growers on when to use what chemicals. But they didn't make enough money! It's different now, though. One of the founders of the Louisiana Agricultural Consultants Association is actually one of my former student colleagues, Dr. Grady Coburn. They even made me an honorary member, so I ended up being kind of a consultant anyway.

#### - **What makes your job worthwhile?**

I like it. I like the work. I like the sugarcane farmers. Working in the field with insects, not that I do that much anymore, but even getting graduate students to do it, it's fun!

#### - **What's so great about sugarcane?**

You can go to Papua New Guinea tomorrow, up in the mountains where sugarcane originated, and see the different grasses... You can imagine the environment that evolved a polyploid sugarcane. It's an amazing place, and an amazing plant.

#### - **What's the most fun you've had at LSU?**

I was on the Chancellor's ad-hoc committee to investigate allegations against LSU by the NCAA [National Collegiate Athletic Association] with LSU football and Basketball programs in the 80s. We were investigating bribery issues in basketball and football. It was a lot of fun representing the LSU faculty Senate. We flew around the country, and some places out of the country, in a private jet plane. We had to produce a two volume document each for football and basketball about the allegations, and the interviews and responses that we discovered. One of my interviews on a Saturday night was in Memphis, where I interviewed the girlfriend of a former famous basketball player, who got pregnant with his baby. The accusation was the assistant coach was bribing the player to play for LSU. I asked her if she had heard about that. She said "No way! If he got some money from him, I would've gotten it!" I always wondered if it was true, but that's the kind of thing we were investigating. I wrote it up like the evidence said, and we got off that allegation. It took 2 years, but it was a lot of fun. We ate some of the best food



in the world, at the finest restaurants, no expense was spared, and everything was paid for. All of our work had to be at the lawyers' office downtown. My wife would complain to me about working too hard, we didn't get weekends or nights off those years. But I liked it. I've never worked a day in my life I didn't enjoy for LSU.

#### - **Do you have any plans for future students?**

My students can travel around the world, since sugarcane is important everywhere. But my rule is if you're going to travel, you have to present! No free vacations! Nepal is the farthest north that sugarcane grows. We're still working on making sugarcane that can tolerate colder climates. We'd like to go to Nepal some day.

We just accepted a master's student, and expect a PhD student from South Africa. They'll be working on a USDA grant received this year concerning sugarcane aphids. They might also do some work on the Mexican rice borer. The Mexican rice borer is much worse in sugarcane than it is in rice!

#### - **Graduate school isn't easy. Classes are stressful, research is hard, advisors are demanding... Do you have any advice for students?**

Always interact with the other students in the department. Your peers can help you so much with your work. They will study with you, support you... They're a tremendous benefit. Learn from them! Remember, you're not competing with other students in this department for jobs, but

rather students from other universities on a national and even international basis.

#### - **What's one thing you've accomplished that you're proud of?**

Years ago, every quarter I would get to go to EPA [Environmental Protection Agency] meetings and make my ideas known. Not just about sugarcane, but anything in entomology. I spoke a lot about pesticides back then. It was a lot of fun getting to give two hour long presentations to people at EPA, make new friends, and make sure they knew what was actually going on in IPM and entomology around the US. I want everyone to know about them, not about me. I want to tell you about Waseem Akbar. He was my PhD student in the 2000s. He got a great job without my letter of recommendation! He didn't even ask for one, he was so good. He's a research leader at Monsanto now. He was a funny guy... He went back home overseas to get married during a school break. When he tried to get back, they wouldn't let him back in the country. He still had a year left of school. So I wrote

a letter to the state senator at the time, Mary Landrieu, and within half a day he was coming back!

#### - **How come you're in a wheelchair, Gene? I'm sure a lot of newer students are too nervous to ask.**

My son was a senior at the naval academy in Maryland when I had my first stroke. I had a lot of therapy and a cane, and I was able to walk with him at his graduation. This was 1995. He is now a Commander in the Navy. He gets to travel all over the world with his family. I'm very proud of him!

After my second stroke, I had to go through a year and a half of physical rehab. My balance isn't so good anymore because of the operations involved, which is why I'm in a wheelchair. At the same time, they had put a tube down my throat, which damaged my trachea. Still, my brain works! It works great!

#### - **Thank you so much for the interview! Is there anything you'd like to say before we finish?**

When I first got this wheelchair, I noticed a lot more people would come up to me and hug me. One of my friends told me they wanted to get hugged more often, and that maybe they should get a wheelchair, too. I said that's one benefit, but overall I don't recommend it!

# Why did YOU choose LSU?

## Keith Tamborello

**Advisor:** Dr. Kristen Healy

**Research:** Gut endosymbionts in honey bees

"I chose LSU because of the close association with the USDA Honey bee lab."

"[I] Love it here! The campus is beautiful and the people are very friendly."



## Lori Moshman

**Advisor:** Dr. Rodrigo Diaz.

**Research:** Artificial refugia for biological control agents of giant salvinia

"I chose LSU because I wanted to stay in the south and I wanted to study invasive species."

"My first impression of Louisiana was the lushness of the vegetation due to the abundance of water all around. I love the giant live oaks covered in resurrection fern."

## Maisarah Saad

**Advisor:** Dr. Stout **Research:** Rice water weevil resistance in rice

"[I was] granted a scholarship to pursue my Master's Degree from [the Malaysian Agricultural Research and Development Institute]. I have been looking for various school[s], but my search stopped when I read Dr. Stout's CV. I believe that he is the right person to guide me for my Master's degree studies and that is the main reason why I choose LSU."

"LSU in particular the Department of Entomology is really awesome. There was no comparison to how friendly and helpful the professors and students were. My classes during my first semester [were] very challenging, but also fascinating. I [learned] a lot in my classes."

## Scott Nacko

**Advisor:** Dr. Henderson

**Research:** Paper wasp nesting biology

"I chose LSU because it has a great entomology department."

"[Louisiana is] warm and there are many insects."

## Greg Wilson

**Advisor:** Dr. Kerns

**Research:** Ecology of sugarcane aphid

"I chose LSU because of the role they play in their state agriculture program; they demonstrate loyalty to their farmers and employees, provide strong leadership examples to youth and adult programs, and conduct exceptional research in agriculture. Some of my family live here, or went to school here, so it was also a great opportunity to get acquainted with them."

"My first impression was good; it encouraged my attendance to see the good management of the farm, getting to participate in a Farmers Field Day (eating some great catfish), and meeting outstanding key players"

--- John Dryburgh

## In Entomology Dept.

### Announcements

- **Daniel Swale** received a Grand Challenges-Explorations grant from the Bill and Melinda Gates Foundation to evaluate novel strategies for control of mosquito vectors of the malaria parasite!
- **Lane Foil** and **Claudia Husseneder** received a Gulf of Mexico Research Initiative grant to study horse fly populations as indicators of the effects of environmental stress on coastal marsh health!
- **Gene Reagan** received a USDA-NIFA grant to study aphid management in sugarcane and sorghum systems!
- **Nick DeLisi** was awarded the C. Lamar Meek Louisiana Mosquito Control scholarship!
- **Lori Moshman** received a grant from the Barataria-Terrebonne National Estuary Program to study winter refugia as a management strategy for salvinia weevils!
- **Namoona Acharya** and **Forest Huval** were awarded entomology student internships to attend the Pest World Conference 2015!
- Congrats to the Entomology Club Travel award winners: **Vivek Pokhrel** and **Chinmay Tikhe**!
- Congrats to the winners and runner-ups of the 2015 LSU Entomology department graduate student symposium: **Emily Kraus**, **Alana Russell**, **Zinan Wang**, **Forest Huval**, **Brittany Owens**, **Ying Niu**, and **Lina Bernaola**!
- **Emily Kraus** was awarded first place in a student Three-Minute Presentation competition at the ESA annual meeting in November 2015!

### How we conduct research



1, Alana is collecting giant salvinia weevils; 2, Shiloh is collecting mosquitoes; 3, Zhilin is extracting RNA from *Drosophila* sp. salivary glands; 4, Nick is identifying *Culex pipiens* mosquitoes to pool and test for West Nile Virus; 5, Balwinder is collecting red imported fire ants; 6, Ying is checking the survivorship of fall armyworm in the corn field; 7, Jie is setting up pheromone traps to collect sweetpotato weevils; 8, Lori is using the Berlese funnels to extract adult weevils from giant salvinia plants; 9, Zinan is "killing" a log.

# Bugger Arts

## *Ode to a Weevil*

--- Alana Russell

(Photo: Alana Russell)

I want to tell you  
about my friend the weevil,  
a tiny creature considered a pest  
by so many people.  
They may feast on your crop,  
and turn the year's yield into a flop.  
Or they may get into the flour,  
and turn all of your kitchen's bread sour.  
But I see a different side of this beetle you call ugly,  
Just take a look under the microscope,  
and you'll find them cuddly  
There's the rostrum that looks like a silly elongate nose,  
And the first antennal segment that bends into an elbow  
They may have colors and scales that are magnificent  
Just gazing upon one can be quite a stimulant  
But that's not why I value this beetle,  
There are many out there that are quite non-lethal  
Take the salvinia weevil, useful in biocontrol,  
In the fronds of giant salvinia they eat many holes  
The adults and larvae kill this nasty invasive,  
A plant that until this point has been very pervasive  
This weevil can be used as an alternative to chemical  
A choice that is economically and environmentally acceptable  
So now my question to all you people  
After hearing all the good news about this beetle  
Will you be so quick to judge a weevil?  
After all, it may be the lesser of two evils

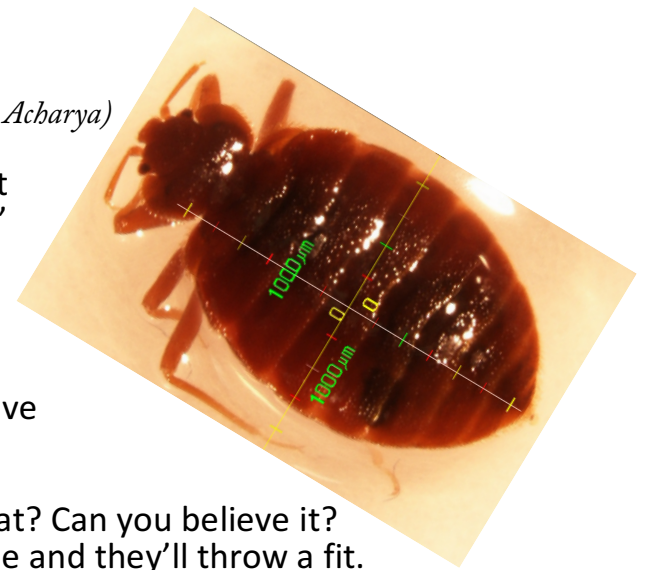


## *Life's Not Fair*

--- Shiloh Judd

(Photo: Namoon Acharya)

"Sleep tight, and don't  
let the bed bugs bite."  
Yeah. Not funny.  
Really, it's not right.  
Don't feed the dog,  
no slop for the hogs,  
and definitely don't give  
any flies to the frogs.



Who says stuff like that? Can you believe it?  
Keep food from people and they'll throw a fit.  
Skip breakfast? Sure. Lunch and dinner? No way!  
I've heard that some folks have four meals a day.

Four meals or three, still seems pretty outrageous.  
And people get mad just 'cause I'm hematophagous.  
I know what I like, is that such a crime?  
I even wait 'til it's past your bedtime.

I don't make a sound, I don't stir you awake,  
I don't spread disease, never caused an outbreak.  
I take just what I need and I leave all the rest.  
I then hide away to discretely digest.

Why do I try? It's no use being civil.  
I could scream or plead, but instead I just snivel.  
Loathed and unvalued, I could sure use a hug,



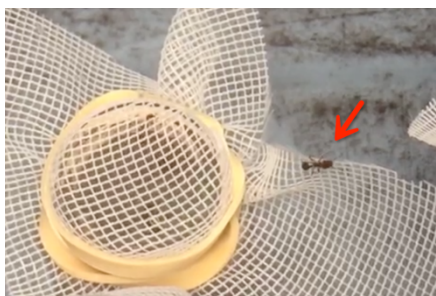
## *"Invicta - the undefeated"*

Displayed in LSU's International Animals in Art Competition. By *Lori Moshman*.

Lori said, "When I learned about the art show, I decided to make an insect-related piece, and since fire ants are easy to find in large numbers, I chose to use them. I harvested the ants by shoveling the mounds into a bucket and filling it with water so the ants would float to the top. I separated the ants and froze them to kill them, then let them dry in the oven. The piece was inspired by my dog, Onyx, and it depicts her sniffing a fire ant mound, only to be engulfed by the ants. She is a curious dog and she knows all about ant stings, usually from trying to eat food that is covered in ants."

## Research Story

Have you ever wondered how long an ant can survive underwater? Balwinder Kaur, Nick DeLisi, and Zinan Wang tried to find this out last semester for a general entomology project. These intrepid researchers found that fire ants can survive drowning up to 8 hours with no mortality. With no one having performed this work before (don't tell any ant researchers!), they plan on redoing the experiment with a more refined approach this summer.



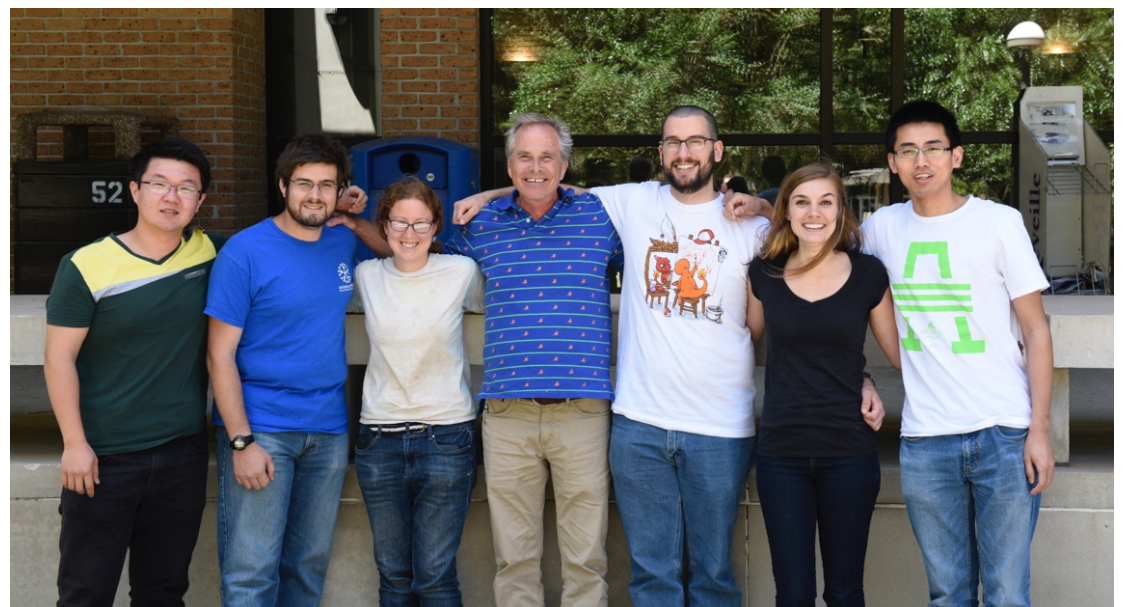
(Nick DeLisi)

Picture was taken when an escaped Red Imported Fire Ant was walking underwater. Photo credit: Zinan Wang.

Wanna see more? Enter this:

<https://youtu.be/U5FmXuNWT3s>.

## Share your stories and photos with us!



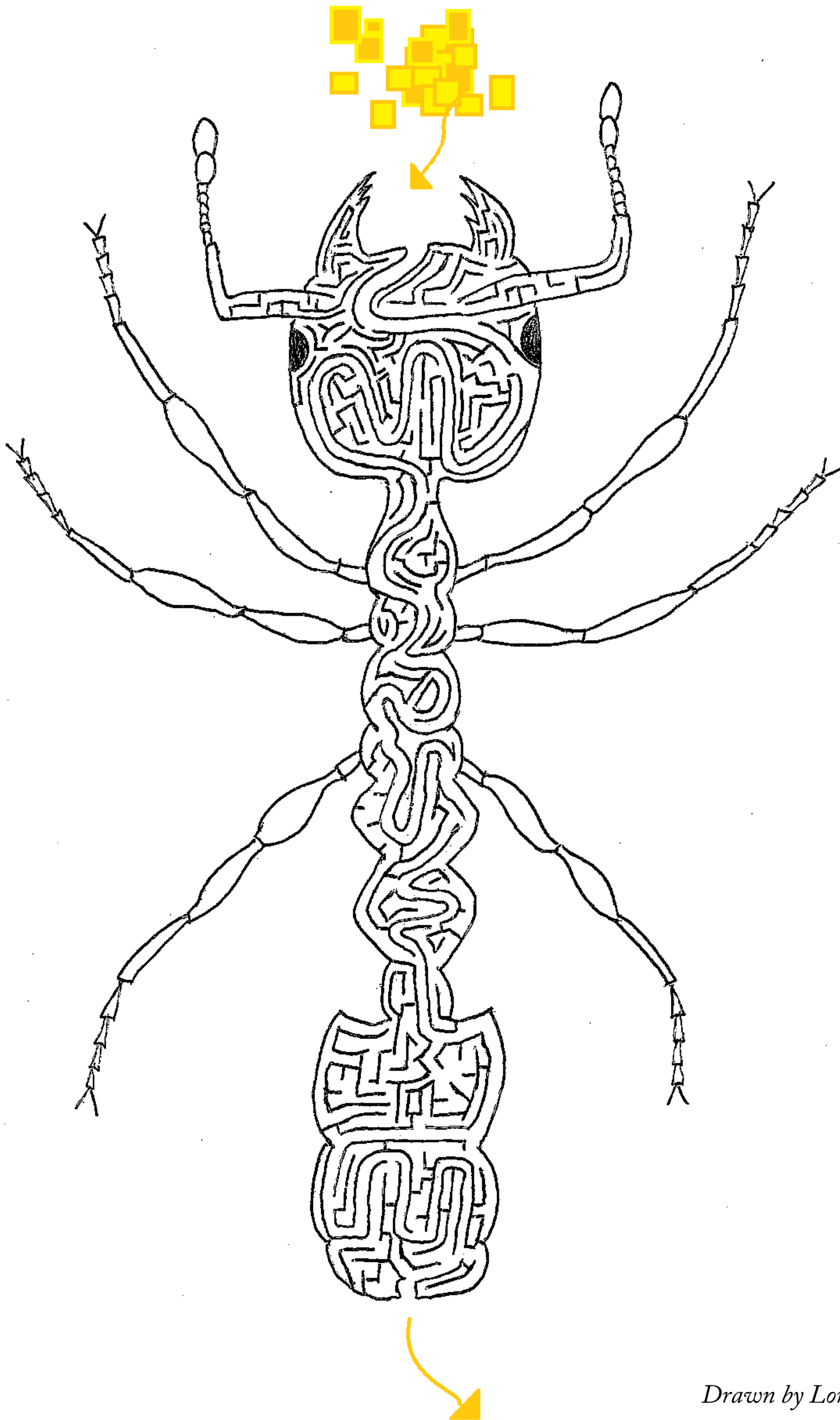
Newsletter editors (left to right): Zinan Wang, John Dryburgh, Lori Moshman, Gregg Henderson (Mentor), Nicholas DeLisi, Alana Russell (chief), John Dryburgh, Zhilin Li. Photo Credit: Keith Tamborello.

Address: 402 Life Science Bldg.

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**Ouch! Who can help this red imported fire ant eat & excrete the bait granules?**



*Drawn by Lori Moshman*