

August, 2014

Issue 4



**MONARCH**  
JOINT VENTURE



**MonarchNet News**  
A Citizen Science Newsletter

### Upcoming Events

- [Minneapolis Monarch Festival](#) in Minneapolis, MN September 6. A free, family-friendly event filled with food, music, and of course— monarchs!
- [Pollinator Garden Tours](#) in Estell Manor, NJ September 13. Enjoy a tour of native plant gardens.

### *Monarch Population Update*

Curious about the status of the monarch population this year? Wondering how it compares to years past? Check out the latest population update in the Monarch Larva Monitoring Project's newsletter here: [http://www.mlmp.org/Newsletters/monthly/2014/mlmp\\_update\\_201407.pdf](http://www.mlmp.org/Newsletters/monthly/2014/mlmp_update_201407.pdf)



Carrie Benham

### *Citizen Science Association*

Citizen science is by no means a new concept, but in the past decade or so, it has taken off like gangbusters. Along with the creation of many new projects and the expansion of existing ones has come an intensive interest in studying the field of citizen science itself. Scientists are asking questions like these: What impact does citizen science have on its participants? How can citizen science projects be used to educate the public about crucial issues? How can we properly manage and run citizen science projects?

In the wake of this desire to understand and improve citizen science, the Citizen Science Association was recently formed. The mission of the association is to “advance citizen science through communication, coordination, and education.” In conjunction with the new group, a Citizen Science Conference will be held in February, 2015 in San Jose, California and a new scientific journal is expected to emerge as well. The conference and the association welcome participants with all types of citizen science experience, including volunteers, project leaders, and researchers. Membership in the Citizen Science Association is currently free, and registration for the conference is open. For more information, visit <http://citizenscienceassociation.org/>.

### *Citizen Science Salon*

Do you enjoy reading about citizen science projects of all kinds? If so, the new blog Citizen Science Salon will definitely pique your interest. Discover Magazine and Scistarter.com recently teamed up to create this fascinating blog series that explores a new citizen science topic or project every few days. With subjects ranging from astronomy to ecology to human health, there's something for everyone. Check out the blog at <http://blogs.discovermagazine.com/citizen-science-salon/>.



*Planning the new Citizen Science Association. Photo courtesy of Wayne MacPhail,*  
<https://www.flickr.com/photos/wmacphail/7723579492/in/photostream/>

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## Program Highlight: Monarch Health

Monarch Health is a citizen science project that studies the frequency and spread of a protozoan parasite that is often found on monarch butterflies, called OE (*Ophryocystis elektroscirrha*). OE infections can cause weakness, deformity, and even death in monarchs. Based out of the University of Georgia and led by Dr. Sonia Altizer, Monarch Health relies on volunteers from across the country who capture wild monarchs and collect samples to be tested for OE. By doing this, the researchers at Monarch Health are able to gain a better understanding of how monarchs and the OE parasite interact.

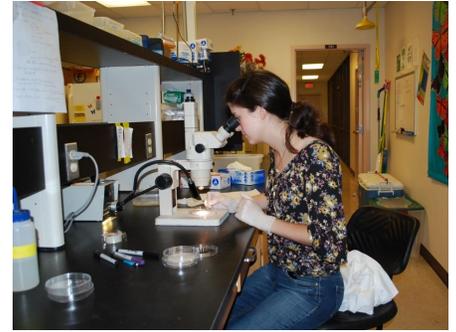
Participation in Monarch Health is easy, and it makes a great activity for citizen scientists of all ages! Participants skilled enough to capture wild adult monarchs gently press a clear sticker or tape on the monarch's abdomen and carefully pull it off. If a participant has collected an egg or caterpillar to raise, the same sampling method can be used once the butterfly has eclosed. Some scales are removed with the sticker, but the butterfly isn't hurt. The sticker is then placed on a note card, labeled, and sent to Monarch Health for testing. Researchers there are able to inspect the sample collected on the tape to determine if any OE spores are present, and if so, how many. If you have access to a microscope, you can try to identify OE spores yourself as well.

Since Monarch Health began in 2006, thousands of samples have been sent in for OE testing. Last year alone more than 1500 samples were submitted! Dr. Sonia Altizer describes the importance of this citizen science participation:

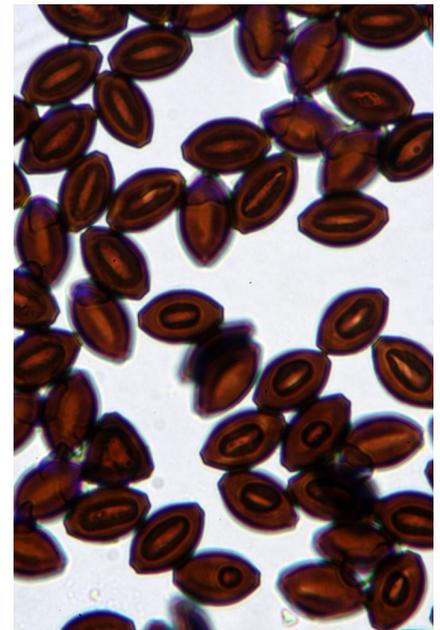
*"Volunteers who participate in Monarch Health have contributed crucial samples that help us track the risk of parasite infection across North America, understand the importance of migration for keeping monarch populations healthy, and detect how human activities are altering parasite spread."*

In addition to contributing to research on monarchs and parasite-host interactions, volunteers are often able to use their participation as a learning opportunity. As with many citizen science projects, many Monarch Health participants are classroom teachers and other educators working with children. The Monarch Health website even offers activities and materials for educators who want to use the project as a teaching tool.

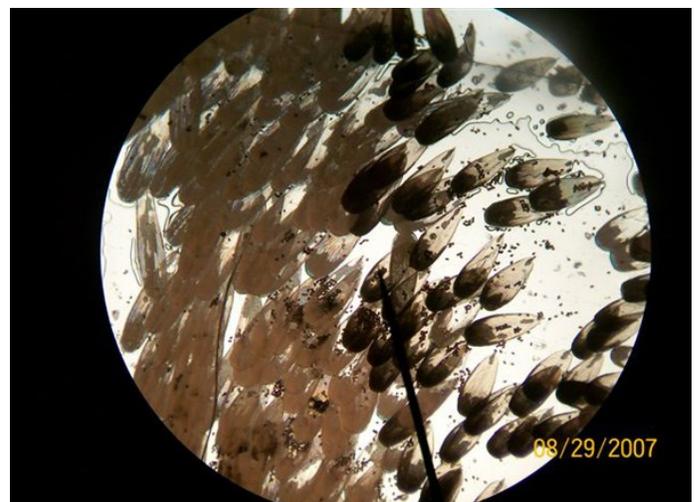
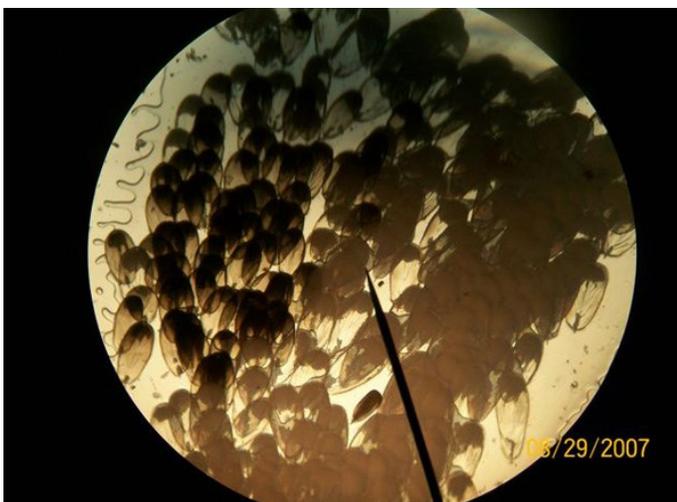
For more information on OE and Monarch Health or to participate in the project, visit the Monarch Health website at [monarchparasites.org](http://monarchparasites.org).



Dara Satterfield conducting OE research at Monarch Health. Photo courtesy of Dara Satterfield.



OE spores as seen through a microscope. Photo courtesy of Sonia Altizer.



Microscope photo of a monarch scale sample that is negative for OE (left) and positive for OE (right). The small specks in the photo on the right are the OE spores. Photo courtesy of Denny Brooks.

## *Volunteer Spotlight: Natalie Tarpein*

When we asked Dr. Sonia Altizer of Monarch Health to recommend an outstanding volunteer to highlight, she immediately suggested Natalie Tarpein. Born and raised in Georgia, Natalie has been involved with Monarch Health since it began in 2006. As an undergraduate Ecology major at the University of Georgia, she took a job with Dr. Altizer, a university professor who at the time was working on the creation of Monarch Health.

Natalie became involved in the initial stages of the project and was immediately drawn to the way it, like all good citizen science projects, involved working with both people and science. As a lifelong butterfly lover, she was also excited to be working on a project that focused on the monarch butterfly. Her involvement with Monarch Health eventually allowed her to take the trip of a lifetime for a monarch enthusiast; she visited Michoacán and the beautiful overwintering grounds in Mexico!

After finishing her degree, Natalie worked as a biologist with the Florida Fish and Wildlife Conservation Commission for several years before returning to the University of Georgia to earn a Masters degree in teaching. Over the years, she has continued to collect data for Monarch Health, as well as for Journey North and Monarch Watch. Now she works as a science teacher at Ashley Ridge High School in South Carolina, where she incorporates monarchs and citizen science into her classroom.

During her first year of teaching, Natalie and her students planted milkweed at the school, and the students constructed a large cage (see photo) to hold monarchs in the classroom. They collected the larvae they found on the milkweed, brought them inside, and reared them. She had her students record observations about the adult butterflies as part of a science lab before they released them back into the wild. Natalie told us about the effect that working with monarchs has in her classroom:

*“The monarch lab just helps reinforce basic science observations, measuring, and recording data skills. More importantly having the monarchs in the classroom helps bring the “awe” and questions back into the classroom. Most students and people are just attracted to watching the progression of life; especially that of an organism that goes through such drastic changes.”*

As we all know, last year was a record-setting bad year for monarchs, and there were simply not enough monarchs to be found on their school grounds to rear them in the classroom. Hopefully Natalie and her students will have more luck this fall!

## *We want to hear from you!*

Are you are a butterfly citizen scientist with a story to tell? Would you like to nominate a volunteer or program for recognition in the newsletter? Write to us at [monarchs@monarchjointventure.org](mailto:monarchs@monarchjointventure.org) with what you would like to see in the newsletter.

Help us spread the word. Send this newsletter to friends who may be interested, and encourage them to “Get Updates” under News & Events on the MJV website!

**Do you want to advertise a butterfly citizen science event? Email us, and we can include it in the next newsletter.**



*Natalie and her students preparing a monarch cage. Photo courtesy of Natalie Tarpein.*



*Common milkweed flowers. Photo courtesy of Gail Gilliland.*