



# Results of the 2011 BioBlitz at Saguaro National Park

## Introduction

On October 21-22, 2011, Saguaro National Park became the fifth park to host the annual BioBlitz. Starting in 2006 and continuing until the 100th Anniversary of the National Park Service in 2016, the National Geographic Society and the National Park Service are sponsoring ten annual BioBlitzes, each a 24-hour scientific inventory and celebration of the diversity of life in a selected premier national park. These events are designed to make connections between parks, science, and young people; stimulate scientific research in national parks; and publicly celebrate the amazing biodiversity that parks protect.

The 2011 BioBlitz was a huge event and great success! More than 5,000 participants, including over 200 scientists and 2,100 school children, searched for species and learned about the amazing diversity in the Sonoran Desert and Sky Island region of Arizona. Students helped collect and identify lichens and insects in the desert environs of the Tucson Mountains, and studied tracks and set up remote wildlife cameras in the Rincon Valley. A few climbed up over 8,000 feet on Mica Mountain, where they camped and explored the pine forests to find and learn about butterflies, bryophytes, and migratory birds. In the Science Tent at the BioBlitz Base Camp, public participants used microscopes to examine lifeforms – endophytes and tardigrades - that many of them had previously never heard of, as well as to view photos and live specimens of larger animals.

Primary sponsors included the Friends of Saguaro National Park and the Arizona Sonora Desert Museum, but many other groups contributed funding, volunteers, expertise, and many other creative forms of support. Tucson really rose to the occasion as the entire community supported and participated in the 2011 BioBlitz.

## Trends and Status

When the projected count of 859 species identified was revealed at the Base Camp on the afternoon of October 22, we knew the number would continue to increase. Many specimens of invertebrate animals, non-vascular plants and fungi had been collected and photographed but will take weeks to months to identify. Ultimately, we expect that hundreds of organisms never before documented in the park will be cataloged. As of this writing, on July 1, 2012 the species count is as follows:



An Ambassador volunteer shows students how to inventory Sonoran Desert plants

Saguaro BioBlitz 2011 Species Count  
Updated July 07, 2012

Species Groups	Actual Count	Predicted Count
Amphibians	3	3
Birds	105	98
Fungi	95	~200
Invertebrates	246	~400
Mammals	24	~28
Non-Vascular Plants	30	~100
Reptiles	31	31
Vascular Plants	390	~400
<b>Total</b>	<b>1044</b>	<b>~1,260</b>

Of these species, 1044 are currently identified to the species level – we are still awaiting identification of more fungi, bryophytes and lichens. In addition, we expect that literally hundreds of invertebrates will be identified.

## Biodiversity Highlights

Saguaro’s BioBlitz has already provided many exciting finds!

- Dr. William Miller, from Baker University in Baldwin City, Kansas, discovered a tardigrade, an interesting invertebrate phyla also referred to as “water bears,” that had never been found in the state of Arizona, let alone Saguaro.

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**Scientist Chris Grinter shows Manzo students his collections of micro moths**

- John Spence, a biologist from Glen Canyon National Recreation Area, found several species of bryophytes (mosses and liverworts) that are new to the park, including at least one that appears to be new to North America – that is, a species never before described or documented in the United States.

- Entomologists (insect scientists) from around the country worked from the desert to the mountaintops collecting literally thousands of insects during the BioBlitz. Because Saguaro’s current species list contains less than 50 insect species, most of the ones collected during the BioBlitz will be newly documented for the park.

- Biologists in the lab of Dr. Betsy Arnold at the University of Arizona discovered hundreds of endophytic fungi that live inside plants in the park, such as desert broom and creosote bush; all species found will be new to the park and many of these species are likely to have never been previously described.

- Wildlife motion detector cameras deployed throughout the park obtained photographs of many interesting mammals, including mountain lion cubs and coatis.



**Tardigrades, a new discovery for the park**



**Night sky inventory taken across both districts and Tucson**

**Citizen Science**

In addition to helping scientists gather data in over 120 public inventory programs, “citizen scientists” participated in the BioBlitz by taking their own photos and uploading them to Saguaro’s Flickr site.

For specimen photos, check out: <http://www.flickr.com/groups/1725510@N21/>

For social photos check out: <http://www.flickr.com/group/1767628@N24/>

BioBlitz photos of species can also be found at the Project Noah website: <http://www.projectnoah.org/missions/6986014>

**What’s Next?**

Further information on the 2011 BioBlitz is available on the Saguaro National Park’s website at [www.nps.gov/sagu](http://www.nps.gov/sagu). Here you can also find links to the list of species found during the event, to NGS’s FieldScope, an online mapping program with observations, photos, and metadata collected during BioBlitzes to date; the National Park Foundation’s Electronic Field Trip, a live broadcast for schoolchildren that reached tens of thousands of kids throughout the US; and many blogs about the event.

To check out the count as it evolves, visit the Park’s website [www.nps.gov/sagu](http://www.nps.gov/sagu). You will find links to media coverage following the BioBlitz and any resources scientists want to share about their work.

If you would like to be involved in Saguaro National Park’s ongoing efforts to document and learn more about the incredible diversity of the Sonoran desert and the Sky Island region, please contact Don Swann at [Don\\_Swann@nps.gov](mailto:Don_Swann@nps.gov)



**A grey fox caught on one of the wildlife cameras checking out a track plate a few days before BioBlitz**



**Scientists and assistants collect aquatic invertebrates at Mardona Ranger Station**

**More Information**

Don Swann  
Biologist

ph: (520) 733-5177  
email: [Don\\_Swann@nps.gov](mailto:Don_Swann@nps.gov)

Saguaro National Park  
3693 S. Old Spanish Trail  
Tucson, AZ 85730

Saguaro National Park  
National Geographic

[www.nps.gov/sagu](http://www.nps.gov/sagu)  
[www.nationalgeographic.org/bioblitz](http://www.nationalgeographic.org/bioblitz)