

Arthropod Update

BioBlitz 2013



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In May 2013, entomologists from the Louisiana State Arthropod Museum (LSAM), Department of Entomology and USDA were invited to participate in an exciting event, the National Geographic 2013 BioBlitz at the Barataria Preserve of Jean Lafitte National Historical Park and Preserve near New Orleans. The objective of a BioBlitz is to provide a snapshot of all species of life recorded during an intense short-term inventory, in this case 48 hours. We were thrilled to have the opportunity to work with talented and experienced organizers from National Geographic and the National Park Service.

Our team led the effort to contribute entomological data for this BioBlitz.

As such, we were responsible for the single largest portion of the inventory on the 23,500-acre preserve. We used different types of traps (light, pitfall, flight intercept) and forest litter arthropod extractions using Berlese funnels as well as hand collecting as we walked the trails. We assembled an on-site lab that included microscopes, sample processing equipment and identification resources, such as identification keys and other technical literature. Our time was divided between collecting, sorting, labeling, identifying and databasing specimens for immediate inclusion into the National Geographic database.

In addition, we set up a digital photo-microscopy system directly connected to the internet allowing us to post images of our specimens directly to BugGuide, an online community-based identification resource. BugGuide served as a format for specialists throughout the world to contribute their expertise to supplement our onsite efforts. This is the first use of crowd-sourcing via the internet for insect identifications during a BioBlitz event. We uploaded photographs of



Nature photographer Kevin Fitzpatrick joins the LSAM team at the light sheet for nighttime insect collection. Photo: Mike Ferro, Louisiana State Arthropod Museum.



The onsite photo-microscopy station for posting images to the internet immediately following collection. Photo: Mike Ferro, Louisiana State Arthropod Museum.

162 arthropods to BugGuide during the BioBlitz requesting crowd-sourced identifications. Within hours many had been identified and within one month 158 had been identified at least to genus. Our photographs represented three major groups (Arachnids, Insects, and Millipedes), 16 orders, 73 named families, and 112 taxa identified to genus or species.

In total, we identified approximately 700 total specimens representing 462 newly recorded species for the BioBlitz. This represents the largest single contribution by any team to the inventory. Among the more interesting discoveries were the tiny wingless cricket, *Myrmecophilus pergandei*, that lives in ant colonies, and another ant-loving insect, a type of silverfish called *Battigrassiella*. We also documented several new and unwelcomed insects including a hooded fungus beetle, *Arthrolips fasciata*, introduced from Tasmania, and a species of tree-fungus beetle that is new to science (i.e, species undescribed) in the genus *Octotemnus* that is believed to be introduced from Asia.



Myrmecophilus pergandei, a tiny cricket that lives in ant colonies, was among the BioBlitz discoveries. Photo: Stephanie Gil, Louisiana State Arthropod Museum.

Events such as this BioBlitz are fantastic opportunities for the public to contribute to scientific discovery to interact with scientists in the field. Engaging the public in understanding the importance of biodiversity in ecosystem function is critical in communicating the need for proper stewardship of our native habitats. These events also serve as springboards for future scientific studies to provide an even more in-depth understanding of biological diversity and ways to improve management of these areas that preserve and enhance it.



The LSAM BioBlitz team takes a well-deserved break. Photo: Mike Ferro, Louisiana State Arthropod Museum.