

## **Citizen scientists to document biodiversity** with high-resolution imagery during summer solstice

June 13 2012

A high-resolution image of a palm tree in Brazil, which under close examination shows bees, wasps and flies feasting on nectars and pollens, was the top jury selection among the images captured during last December's Nearby Nature GigaBlitz. It's also an example of what organizers hope participants will produce for the next GigaBlitz, June 20-26.

The Nearby Nature GigaBlitz events are <u>citizen science</u> projects in which people use gigapixel <u>imagery</u> technology to document <u>biodiversity</u> in their backyards — if not literally in their backyards, then in a nearby woodlot or vacant field. These <u>images</u> are then shared and made available for analysis via the GigaPan website. The events are organized by a trio of biologists and their partners at Carnegie Mellon University's CREATE Lab.

Information on the GigaBlitz scheduled to coincide with this year's summer solstice is available online at <u>http://science.gigapan.org/call-for-entries/</u>.

December's GigaBlitz included contributors from the United States, Canada, Spain, Japan, South Africa, Brazil, Singapore, Indonesia and Australia. Ten of the best images are featured in the June issue of GigaPan Magazine, an online publication of CMU's CREATE Lab.



The issue was guest-edited by the organizers of the GigaBlitz: Ken Tamminga, professor of landscape architecture at Penn State University; Dennis vanEngelsdorp, research scientist at the University of Maryland's Department of Entomology; and M. Alex Smith, assistant professor of integrative biology at the University of Guelph, Ontario.

The top-rated image from the winter solstice GigaBlitz, Palmiero em flor, by Eduardo Frick, drew high praise from the guest editors. "We're delighted that this deceptively simple composition was so honored because it reveals biodiversity in action and up close," they explained. "Even deep within our cities, pollinators such as <u>bees</u>, <u>wasps</u>, butterflies, ants, hummingbirds and some bat species do the work of moving pollen, ensuring successful fruit and seed production."

The trio got the idea for GigaBlitz while attending a Carnegie Mellon conference on the scientific use of gigapixel imagery. An example of this technology is the GigaPan system developed by Carnegie Mellon and NASA. It can combine hundreds of digital photos into a large panorama that can be interactively explored via computer. Thousands of GigaPan camera systems are in use worldwide and available commercially through GigaPan Systems Inc.

Tamminga, vanEngelsdorp and Smith envisioned something akin to a BioBlitz, an intensive survey of a park or nature preserve that attempts to identify all living species within an area at a given time, and citizen science efforts such as the Audubon Society's Christmas Bird Count.

"We imagined using these widely separated, but nearby, panoramas as a way of collecting biodiversity data — similar to the Christmas bird count — where citizen scientists surveyed their world, then distributed and shared that data with the world through public GigaPans," they wrote. "The plus of the GigaPan approach was that the sharing was bidirectional — not merely 'This is what I saw,' but also hearing someone



say, 'This is what I found in your GigaPan.'"

Smith, Tamminga and vanEngelsdorp are fellows of the Fine Outreach for Science, a project funded by the Fine Foundation of Pittsburgh to foster scientific use of gigapixel imagery.

Provided by Carnegie Mellon University

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