

Beyond LOL cats, social networks could become trove of biodiversity data

October 21 2014

Whiplash the Cowboy Monkey. Grumpy Cat. "Peanut," the Ugliest Dog in the World. These might be a sampling of the most familiar animals to millions of users of social networking sites like Facebook.

But one doctoral student in geography at the University of Kansas recognizes social networking sites as a potential boon for scientifically documenting Earth's [biodiversity](#), particularly in developing nations. In fact, for this idea, Vijay Barve was just honored with a Young Researchers Award from the Global Biodiversity Information Facility, an international organization focused on making scientific data on biodiversity available via the Internet.

Barve said that social networks could supplement data available via established biodiversity web sites.

"Though data about birds is available on sites like GBIF, [social networking](#) would add a lot of data on groups like butterflies, moths and other insects," he said. "Basically any organism which can be identified using photographs to certain confidence would be available on [social networking sites](#)."

In a paper recently published in the peer-reviewed journal *Ecological Informatics*, Barve demonstrated social networks to be a viable source for photo-vouchered biodiversity records, especially those that clarify which species exist in what places within developing nations.

"There are two main reasons why geographic and taxonomic gaps exist in developing nations," he said. "First, because of colonial history, most of the historical collections are deposited with European museums and are not largely digitized yet due to lack of priority. Second, most developing countries have not invested in curating and digitizing biodiversity in their collections yet."

Barve has pored over photos of monarch butterflies and snowy owls on the photo-sharing social network Flickr, finding them to be a rich source of [biodiversity data](#). Not just photos, but also their associated metadata, make this possible, he said.

"We need a date, place—meaning coordinates not just the name of the place and who has seen it," he said. "Identifications could be done by naturalists and experts."

But Barve stressed that photos from non-experts would be valuable to two of the three broad classes of occurrence records used by scientists: directed surveys and broad-scale surveys.

"Anybody with camera who takes pictures of curious creatures would contribute to what I am harvesting," he said. "The person posting needs to tag the photo with any term indicating a biodiversity element. That's the requirement to show that item in my searches."

Barve said the inspiration for scouring social media networks came from a class he took at KU.

"I've been interested in biodiversity since my childhood and have been watching birds and butterflies with interest," he said. "While taking a neogeography class at KU, we were studying citizens as sensors and how they contribute a lot of geographic information. That research set me thinking about how I could apply that to my own research in

biodiversity, and I started exploring this field."

While Barve selected Flickr to prove the usefulness of social media to biodiversity research, he said that any social network could be mined for worthwhile data, given a few requirements.

"The ability of social network sites to record the date photo was taken, rather than just posted, and geo-tagging the photo are most important," Barve said. "To automate the searches the social network sites should also provide extensive search and ability to access the site programmatically."

Barve, who coordinates DiversityIndia, a group interested in learning about biodiversity through social networks, also practices what he preaches as a regular user of social networks.

"I have been an active user of Yahoo groups, Flickr, Picasa and Facebook," he said. "I post lot of small insects and butterflies that I photograph all the time."

Provided by University of Kansas

Citation: Beyond LOL cats, social networks could become trove of biodiversity data (2014, October 21) retrieved 19 April 2024 from <https://phys.org/news/2014-10-lol-cats-social-networks-trove.html>

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