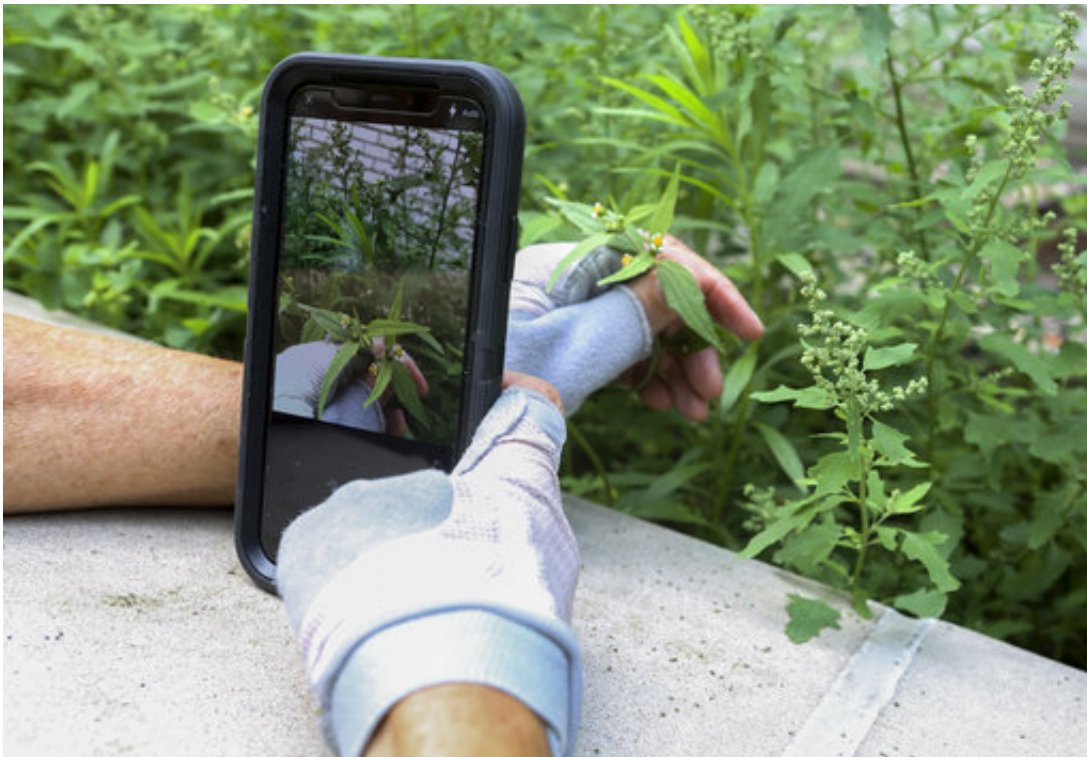# The Green Big Apple: New Yorkers document the city's plants

August 3 2018, by Emiliano Rodriguez Mega

In this July 27, 2018 photo, Susan Hewitt photographs a daisy-like weed known as 'shaggy soldier' and adds it to iNaturalist, the app she uses to participate in the New York City EcoFlora project. "If people could just take a few minutes to look at nature closely, I think they would be blown away," Hewitt said. Hundreds of New Yorkers are working with researchers to find and catalog wild plants in their city. They're taking pictures with their smartphones as they walk the streets. Participants have already found invasive species, plants never documented before in New York City, and endangered native weeds. (AP Photo/Emiliano Rodriguez Mega)

Susan Hewitt found a special prize recently while wandering the streets of New York.

The 70-year-old spotted a mysterious patch of bright green leaves with tiny white flowers in a raised flower bed. It turned out to be tropical Mexican clover, a weed common in South America and Florida's orange groves, but never recorded before in the state.

"I get a tremendous kick out of identifying things," she said. "There's nothing more exciting."

Hewitt volunteers for an ambitious project to photograph all the wild plants that dwell in New York City. On Friday, the organizers announced that citizen scientists had catalogued more than 26,000 sightings, and documented new populations of invasive species and native weeds that seem to be disappearing, like the green comet milkweed.

Started last year by scientists at the New York Botanical Garden, the effort makes up for the lack of manpower to survey the entire city.

"There are just not enough of us," said Regina Alvarez, a professor at Dominican College in New York who isn't part of the effort. "What we're studying requires a lot of data and it's really hard for the number of scientists that are out there to do all that work."

In this July 27, 2018 photo, Susan Hewitt poses for a picture showing her profile on iNaturalist, the app where she records all the plants and animals she finds in New York City. With 7,379 observations and 736 species identified, Hewitt is the most active member of the EcoFlora project. .(AP Photo/Emiliano Rodriguez Mega)

The project so far has attracted 730 volunteers armed with smartphones who've hit the streets for the quest, called New York City EcoFlora.

Hewitt, a self-described naturalist who grew up near the English village where Charles Darwin lived, made her discovery last month in front of a massive apartment building in Manhattan's Upper East Side. She fires up her iPhone X every time she spots something new or interesting. A fragile tree seedling sticking out of a manhole cover? Click. A white petunia hidden among weeds? Click.

Botanist Brian Boom, who heads the project, said the scientific

community wasn't really thinking about the need to engage with regular folks when he was a graduate student in the early 1980s.

"There was a sense of, 'This is what we do. And you can go out and look at the birds and that's great. But, you know, we'll do the science,'" he said.

Not anymore. Scientists have become increasingly aware of how citizens can contribute to their research.

Digital platforms like iNaturalist, a mobile app where citizens share their observations of plants and animals, estimate that people have made dozens of noteworthy discoveries around the world. And a 2017 study found that more than half the material in the Global Biodiversity Information Facility —an open-access database with information about all types of life on Earth— comes from volunteers.

In this July 26, 2018 photo, Daniel Atha, left, and Brian Boom, right, look at two New York Botanical Garden specimens of a hardy plant called Italian arum in New York. The plant has the potential to take over and displace native species. Atha said new populations of this invasor were discovered in New York City with the help of citizen scientists. (AP Photo/Emiliano Rodriguez Mega)

"Many citizens are experts in their own way," said Mark Chandler, a field biologist at Earthwatch Institute in Boston who isn't part of the project. "If we can get them to start recording the (biodiversity) in their backyards, they can really make a huge contribution."

Citizen scientists in the EcoFlora effort have documented at least six plants never recorded before in New York state and two new plants for North America. The observations already are helping prepare for future threats. In July, the project challenged its volunteers to locate every tree of heaven in the city. These rapidly growing trees with pale gray bark and a stinky smell are the preferred host of an Asian moth that can harm crops and forests. Mapping the host plant will allow researchers know where to look for the insect once it shows up.

"It hasn't been found in New York (state) yet. But it'll come," said botanist Daniel Atha. "For sure, it'll come."

Volunteers have their own reasons for participating.

Zihao Wang, 29, used to look for plants on his own, exploring the green patches he found on Google Maps. Now, he's one of the most active members with 538 species identified so far. When he's not hunting for plants as a hobby, he works for the city's parks department.

"I want to see a version of New York City that's different from

everybody else's," Wang said. "I'm always surprised by how much nature still exists here."

In this July 26, 2018 photo, Daniel Atha holds the specimen of a swamp rose he collected in 2014, when he was working to document all of Central Park's naturally occurring plants in New York. The results of that survey feed into the New York City EcoFlora project. (AP Photo/Emiliano Rodriguez Mega)

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