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11 NEW BEE SPECIES DISCOVERED IN EASTERN UNITED STATES

NEW FINDS INCLUDE FOUR SPECIES FROM NEW YORK; ONE NAMED GOTHAM FOR NEW YORK CITY

Eleven new species of bees, including four from New York City and its suburbs, have been discovered with the help of the vast digital and physical bee collections at the American Museum of Natural History. The newly described sweat bees—small-to-medium-sized bees named for their attraction to the salt in human sweat—are presented by Cornell University postdoctoral researcher Jason Gibbs in a paper in the journal *Zootaxa*. One of the new species found in New York City—in the New York Botanical Garden in the Bronx and in the Brooklyn Botanic Garden—was given an especially fitting name: *Lasioglossum gotham*.

"Declines in honey bees and other bees have received a lot of attention in recent years, but it is not generally appreciated that bee species entirely new to science are still being discovered even within our largest cities. New York City has a surprising diversity of bees, with more than 250 described species recorded," said John Ascher, a research scientist in the Museum's Division of Invertebrate Zoology who collected and curated specimens of some of the new species. Asher leads the Digital Bee Collections Network, a collaborative project that serves as the online clearinghouse for information about the world's bee species.

The new batch of bees also includes *Lasioglossum ascheri*, which was classified from just two specimens found in Westchester and Suffolk counties; *L. katherinae* from Brooklyn and Nassau County; *Lasioglossum rozeni* from Suffolk County; and *L. georgeickworti* from Queens and Nassau and Suffolk counties.

"It's remarkable that so many bees are able to live in such a major urban area," said Gibbs, who used the Museum's collection to help determine the new species. "Natural areas like urban parks and rooftop and botanical gardens provide the nesting sites and floral diversity that bees need. This little bee has been quietly living in the city, pollinating flowers in people's gardens for years. It's a pleasure to help give it some well-deserved recognition."

Bees are the most important pollinators in the Northeastern United States, fertilizing plants as they fly from flower to flower on pollen-collecting missions. The discovery of new bee species in New York City and the vicinity highlights the need for additional study of native bee diversity across the country, Gibbs said.

"There are many more new species in the United States that remain to be described," he said. "These new species are just the tip of the iceberg."

Information about these new species and all others from the eastern United States, including georeferenced specimens recorded by the Museum, are available through the biodiversity web portal <u>Discover Life</u>. This website integrates specimen records from more than a dozen bee collections, so far totaling about 700,000 records, captured in the Digital Bee Collections Network. This collaborative project, led by Ascher, digitizes locality, date, and host plant information from bee specimen labels and displays these data on species pages linked to global maps and identification guides. It is funded by National Science Foundation (NSF) grant #0956388 and receives additional support from Chairman Emeritus of the Museum's Board of Trustees, Robert G. Goelet, who collected specimens of the new species *L. rozeni* from Gardiners Island.

"The assembled records document changes in the status of bee pollinators, including the sudden declines of several bumble bees," Ascher said. "In addition, study of the new and historical collections has revealed the presence of previously overlooked bee species, many of which still await taxonomic description."

Gibbs' revisionary study was supported with funding to the Canadian Barcode of Life Network from Genome Canada, the Natural Sciences and Engineering Research Council (NSERC), and other sponsors listed at www.bolnet.ca. Support for the final stages of this paper was received from NSERC, NSF, and the United States Department of Agriculture's Agriculture and Food Research Initiative.

American Museum of Natural History (amnh.org)

The American Museum of Natural History, founded in 1869, is one of the world's preeminent scientific, educational, and cultural institutions. The Museum encompasses 45 permanent exhibition halls and galleries for temporary exhibitions, the Rose Center for Earth and Space with the Hayden Planetarium, state-of-the-art research laboratories and five active research divisions that support more than 200 scientists in addition to one of the largest natural history libraries in the Western Hemisphere and a permanent collection of more than 32 million specimens and cultural artifacts. Through its Richard Gilder Graduate School, it is the first American museum authorized to grant the Ph.D. degree. In 2012, the Museum will begin offering a pilot Master of Arts in Teaching with a specialization in earth science. Approximately 5 million visitors from around the world came to the Museum last year, and its exhibitions and Space Shows can be seen in venues on five continents. The Museum's website and growing collection of apps for mobile devices extend its collections, exhibitions, and educational programs to millions more beyond its walls. Visit amnh.org for more information.

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