

Non-technical abstract

Natural history collections contain millions of bee specimens collected over the last two centuries. These specimens, when accurately identified to species, provide a rich, historical source of data on the geographic ranges of species, the temporal patterns of species appearance, and the host-plant and habitat preferences. This project will consolidate data from ten natural history collections¹ across the United States into a single, searchable, online database. Specimen record data will be captured, error-checked, integrated with other data, and made accessible to researchers, policy makers, and the public via a publically available website (Discover Life; www.discoverlife.org). This project will provide important baseline data to assess the past and present distributions of bee species, to establish the conservation status of species, and to predict global risks to bee pollination services from climate change, habitat loss, and other factors.

Approximately 1/3 of the human, plant-based food supply requires animal pollination. The most important agricultural pollinators are bees. Recent declines in honey bee populations over the past 50 years have raised concerns over the long-term advisability of relying on a single, non-native crop pollinator. Native bee species are potentially providing important pollinator services in many crop systems. It is therefore important to have accurate, comprehensive data on bee distributions and how these are changing over time. The information will have broad utility for the scientific community, policy makers, and the general public.

¹ American Museum of Natural History, University of California Riverside, USDA-ARS Bee Biology and Systematics Lab at Utah State University, Cornell University, University of California Davis, University of California Berkeley, California State Collection of Arthropods, Los Angeles County Natural History Museum, University of Connecticut, and Rutgers University.