# iDigBio as a Resource for the Digitization of a Billion Biodiversity Research Specimens

**There are approximately 1 billion biodiversity research specimens in the United States with information pertaining to as few as 10% of them available online.**

## What is iDigBio?

The US NSF's Advancing Digitization of Biological Collections (ADBC) program is a collaboration between the Biological Sciences and Geosciences Directorates to fund the digitization efforts of thematic collections networks (TCNs) centered on research questions and a national hub to facilitate the digitization activities and the online deployment of the data (iDigBio).



*iDigBio facilitates digitization & deployment of data!*
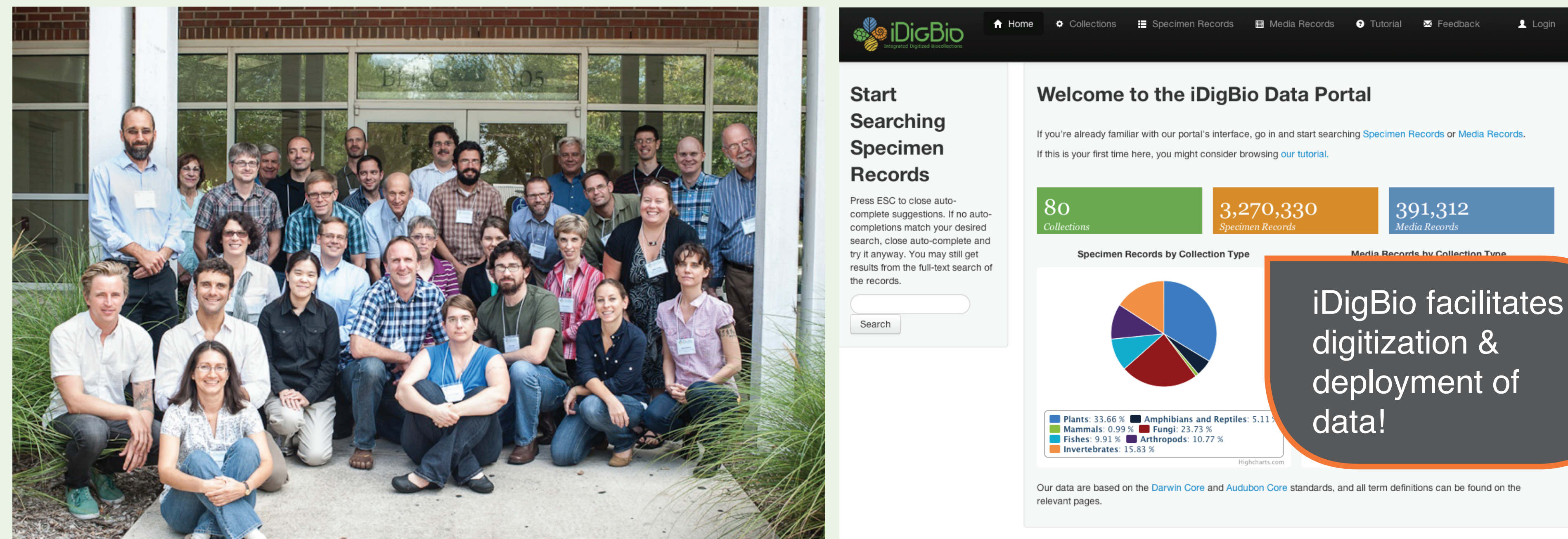
Among its many activities since its beginning in 2011, iDigBio has organized 15 workshops and symposia, including the "Public Participation in Digitization of Biodiversity Specimens Workshop" in Fall 2012 (left). iDigBio also supports a web portal (right) for specimen data and media registered in the iDigBio cloud.

## What are the TCNs?

New TCNs are funded each year. There are currently 10 TCNs:

*The TCNs are large networks of digitizing institutions!*



There are 150 institutions involved in the 10 TCNs.

**InvertNet**—An Integrative Platform for Research on Environmental Change, Species Discovery and Identification
*(Lead PI: Christopher Dietrich, University of Illinois, Urbana-Champaign)*

North American **Lichens and Bryophytes**: Sensitive Indicators of Environmental Quality and Change
*(Lead PI: Corinna Gries, University of Wisconsin, Madison)*

**Plants, Herbivores, and Parasitoids**: A Model System for the Study of Tri-Trophic Associations
*(Lead PI: Randall T. Schuh, American Museum of Natural History)*

Southwest Collections of **Arthropods** Network (SCAN): A Model for Collections Digitization to Promote Taxonomic and Ecological Research
*(Lead PI: Neil S. Cobb, Northern Arizona University)*

The **Macrofungi** Collection Consortium: Unlocking a Biodiversity Resource for Understanding Biotic Interactions, Nutrient Cycling and Human Affairs
*(Lead PI: Barbara Thiers, New York Botanical Gardens)*

Mobilizing New England **Vascular Plant** Specimen Data to Track Environmental Changes
*(Lead PI: Patrick Sweeney, Yale University)*

Digitizing **Fossils** to Enable New Syntheses in Biogeography—Creating a PALEONICHES
*(Lead PI: Bruce Lieberman, University of Kansas)*

**Fossil Insect** Collaborative: A Deep-Time Approach to Studying Diversification and Response to Environmental Change
*(Lead PI: Dena Smith, University of Colorado at Boulder)*

Developing a Centralized Digital Archive of **Vouchered Animal Communication Signals**
*(Lead PI: Michael Webster, Cornell University)*

The Macroalgal Herbarium Consortium: Accessing 150 Years of Specimen Data to Understand Changes in the **Marine/Aquatic** Environment
*(Lead PI: Christopher Neefus, University of New Hampshire)*

## A closer look at a TCN

The goal of the Mobilizing New England Vascular Plant Specimen Data to Track Environmental Changes project is

*"to provide data to support studies of the nature and consequences of environmental change in the New England region over the last three centuries. This project will digitally capture specimen data and images from about 1.3 million vascular plant specimens from herbaria across New England, enhancing the data with georeferencing, habitat, and phenological information."*

(Sweeney et al., NSF Award 1209149 Abstract)

## Workshops and Symposia in 2013 and 2014

The following are some iDigBio-sponsored (or cosponsored) workshops and symposia, past and future:

**Wet Collection Digitization Workshop**
Lawrence, KS at the U. of Kansas

**Pinned Insects Digitization Workshop**
Chicago, IL at the Field Museum

**Broadening Participation - Recruiting and Retaining Outstanding Scientists in the Botanical Sciences**
July 2013 at Botany 2013 in New Orleans, LA.

**Georeferencing: Train the Trainers Workshop**
August 2013 in Gainesville, FL.

**Paleo Digitization Workshop**
September 2013 in New Haven, CT at Yale U.

**Digitizing Small Herbaria Workshop**
December 2013 in Tallahassee, FL.

**Education and Outreach in Digitization Workshop**
January 2014 in Gainesville, FL

**Broadening Diversity in the Biological Sciences Workshop**
January 2014 in Atlanta, GA at Morehouse College

**Digitization Process Workshop**
March 2014 in Honolulu, HI at the Bishop Museum

*Join upcoming workshops via AdobeConnect!*

Topics for other workshop and symposia for 2014 include Biodiversity Informatics, Digitization of Original Source Materials, and Public Participation and Citizen Science.



*This one is studying environmental change!*
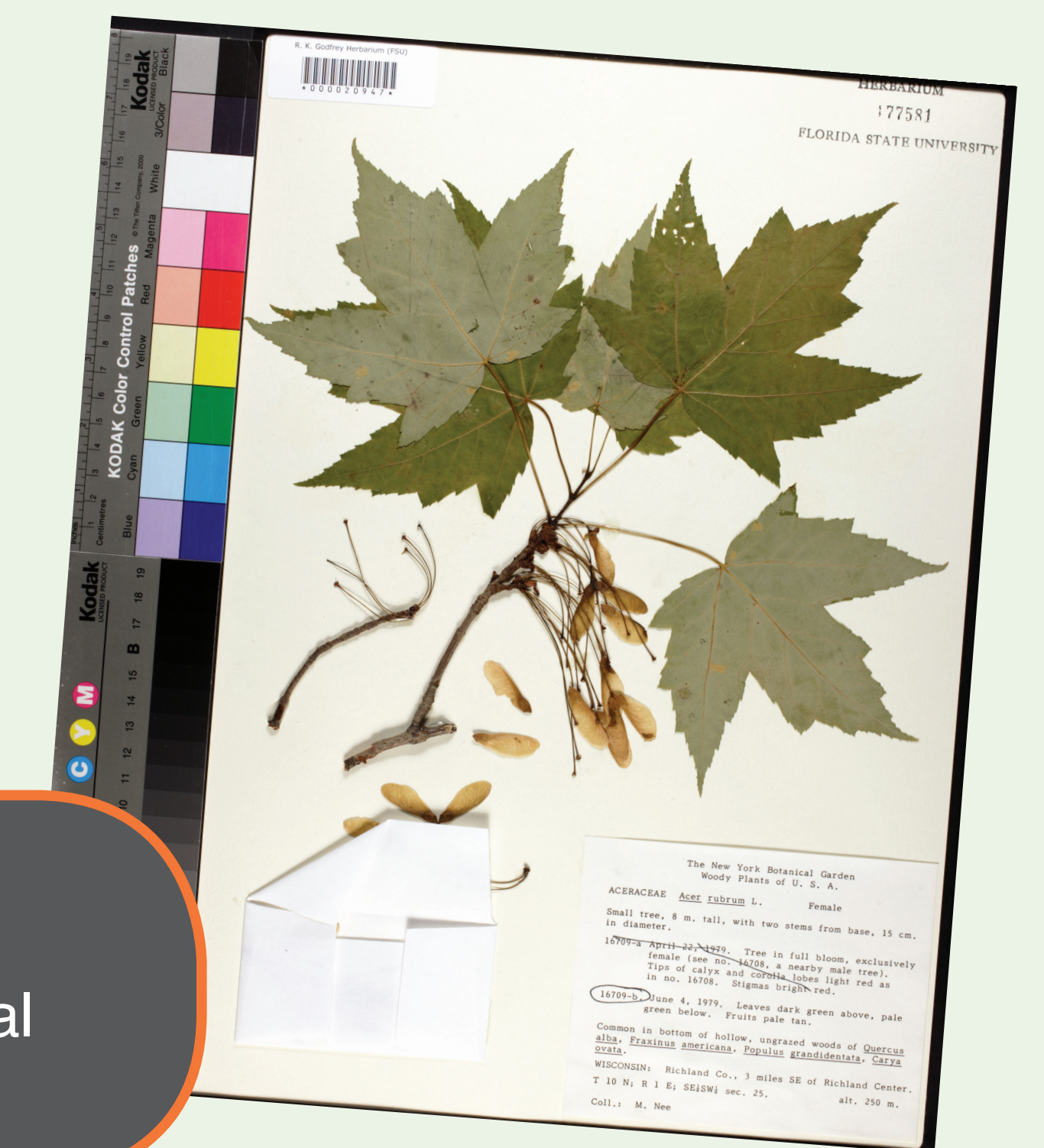
## Working Groups

- Public Participation in Digitization
- Augmenting Optical Character Recognition
- Biodiversity Informatics Management
- Developing Robust Object to Image to Data (DROID) 1: Flat Sheets and Packets
- DROID2: Pinned Specimens in Trays and Drawers
- DROID3: 3D Objects and Things in Spirits
- Education and Outreach
- Cyberinfrastructure
- Georeferencing
- Minimum Information Standards, Authority Files, & Semantics
- Paleontology
- Strategic Communication

*Always looking for complementary expertise!*

## How can you participate?

**Visit www.idigbio.org for more info or approach Austin Mast at this meeting.**

- Submit a TCN or Partners to Existing Networks proposal to NSF (due each October).
- Register your specimen and media data in the iDigBio cloud (any US institution can do so!)
- Participate in an upcoming iDigBio workshop or propose a workshop.
- Participate in an iDigBio working group or propose a working group.
- Join the iDigBio listserv.
- Watch the iDigBio Blog, Wiki, and Forums at **www.idigbio.org**.
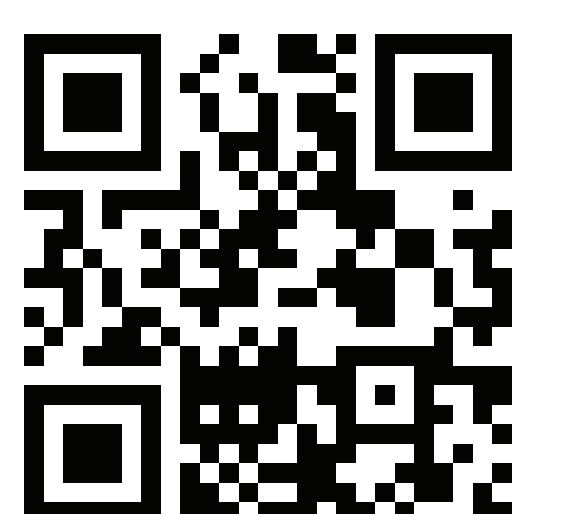
*Scan the 2-D barcode and watch the video to learn more!*