North American Lichens and Bryophytes: Sensitive Indicators of Environmental Quality and Change

Report submitted by: cgries@wisc.edu
Report Submitted on: 08/28/2014 - 11:21

Progress in Digitization Efforts

As of August 2014 the number for the LBCC are as follows:
Lichens: http://lichenportal.org
Herbaria actively submitting images or key stroked records to the portal: 58
Specimen records in portal: 1,294,847 (up by 17,735 since June 2014)
Specimen records with images: 599,924 (17,735 labels have been imaged since June 2014, plus 6,124 have been added to existing records)
Obviously, we are moving from the imaging phase to the transcription phase. As a measure for transcription activities we have chosen to report the numbers of records with locality information: 944,609

Bryohpytes
http://bryophyteportal.org
Herbaria actively submitting images or key stroked records to the portal: 56
Specimen records in portal: 1,900,256 (up by 42,292 since June 2014)
Specimen records with images: 803,134 (42,292 labels have been imaged since June 2014, plus 2,978 have been added to existing records)
Records with locality information: 1,133,529

Share and Identify Best Practices and Standards (including Lessons Learned)

One lesson I learned this summer is that it is very difficult to find people willing to transcribe label images.

Identify Gaps in Digitization Areas and Technology

nothing to report

Share and Identify Opportunities to Enhance Training Efforts

We have just started regular Symbiota training sessions through iDigBio's Adobe Connect. The first happened on Tuesday, August 26 and was attended by 14 people. Julie Smith is responsible for scheduling and Ed Gilbert did the presentation. Julie is now available for questions and has been in contact with many Symbiota users from our project.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

nothing to report

Share and Identify Opportunities and Strategies for Sustainability

nothing to report

Other Progress (that doesn't fit into the above categories)

nothing to report

Attachment

N/A

iDigBio is funded by a grant from the National Science Foundation's Advancing Digitization of Biodiversity Collections Program (#EF1115210)

DIGITIZING FOSSILS TO ENABLE NEW SYNTHESES IN BIOGEOGRAPHY- CREATING A PALEONICHES

Report submitted by: blieber@ku.edu
Report Submitted on: 08/28/2014 - 12:41

Progress in Digitization Efforts

Paleoniches Update, August 2014

Regarding the University of Kansas portion of the project, led by PI Bruce S. Lieberman and co-PI Una Farrell, we now have a total of 135,197 specimens databased. Of these, there are a total of 131,078 specimens databased that have clean, proofed localities. Further, we now have a total of 113,003 specimens that are georeferenced. In addition, a total of 7,465 localities have been georeferenced, meaning that we have effectively completed the entire georeferencing component of our proposed work. Also, imaging of several of the Pennsylvanian species have been completed and these images have been sent on to Jonathan Hendricks, PI at SJSU, for incorporation into the Pennsylvanian digital atlas (see below for further discussion). Finally, in other relevant news, Una Farrell attended the most recent SPNCH annual meeting in Cardiff, Wales, UK, and presented a poster describing our work on the TCN, and an abstract on "Data, Digitization, and Discovery in the Paleoniches TCN" authored by post-doc Michelle Casey, co-PI Una Farrell, and PI Bruce S. Lieberman was accepted for presentation in the session "Advancing the Digitization of Paleontology and Geoscience Collections: Projects, Programs, and Practices I" at the 2014 Annual Meeting of the Geological Society of America in Vancouver.

Further, during the last three months, PI's B. Lieberman, J. Hendrickson, and co-PI J. Beach began working with the consulting developer of the Paleoniches iPad Atlas application (Rod Spears Consulting) to specify the requirements and design for a prototype. The Atlas app will leverage considerable pre-existing software developed for the Specify Software Project, for Specify Insight an iPad app for browsing biological collections data. We have identified methods for creating a data pipeline for pushing project specimen text and image data from the Paleoniches web portal to the iPad. Working with PI Jon Hendrickson, we are developing software code and a file format to dump project data from the project web portal (Word Press/MySQL) to SQLite the database platform used on the iPad. User interface design discussions are underway; data exploration capabilities will include specimen search, mapping, and image browsing. We expect to have a prototype version of the Atlas app with data from two major project groups in Fall 2014.

The iPad screen images in the attached file (along with the rest of the report) are from the Specify Insight App, but they provide an idea of the visual style of the Paleoniches Atlas application.

Regarding the Ohio University portion of the project, led by PI Alycia Stigall

Ohio University:

Three new undergraduate students began work on the Ordovician Atlas. These new students plus a returning MS student and two returning undergraduates will continue Atlas development during the 2014-2015 Academic year.

Currently, there are 81 species and 64 genera live on the Ordovician Atlas. Photo processing for the arthropods is complete. All but three photographs are processed for the brachiopods, and about half the photographs for the bryozoans are processed. Photographs for the remaining phyla are less than halfway processed. Published descriptions have been located for the majority of the brachiopods and arthropods. Bryozoans and crinoids are currently being researched. In June, the Ordovician Atlas website was opened as an interactive display in the Cincinnati Museum Center's 'Cincinnati Under the Sea' exhibit.

Cincinnati Museum Center:

A temporary exhibit, "Cincinnati Under the Sea" was opened in June which showcases the spectacular fauna of the Cincinnati, Ohio region was opened at the Cincinnati Museum Center. Included in this exhibit is computer interface so patrons can interact with the Digital Atlas of Ordovician Life.

Both student interns that were working on geofeferencing during the 2013-2014 academic year have moved on to full-time employment. However, with the new FY 2014-15 upon us, a new University of Cincinnati student was hired and will be starting August 18th. His main goal will be to complete georeferencing the Ohio, Indiana, and Kentucky site records in KeEmu which will target most known Cincinnatian specimen records in the collections.

Miami University:

No students were employed during the summer semester, but new students will be recruited to continue digitization efforts with the start of the 2014-2015 academic year.

Regarding the San José State University portion of the project, led by PI Jon Hendricks:

Since the last update, undergraduate and graduate student assistants have continued to generate content for the Neogene and Pennsylvanian components of the "Digital Atlas of Ancient Life" and have put it online.
One notable accomplishment since the last update is that the migration of Neogene content from the old Digital Atlas page (http://www.geosun.sjsu.edu/~jhendricks/AtlasTemp/) to the new WordPress-based page (http://www.neogeneatlas.org) is now complete; the old website will soon be taken offline. New content has been added to the Neogene Atlas for the bivalve families Arcidae, Glycymeridae, Ostreidae, and Mytillidae and the gastropod family Muricidae. Content generation for the bivalve family Pectinidae is currently in progress. Species-level pages are now online for 284 Neogene species (out of 500 planned pages).
Another important accomplishment is that the revised webpage for the Pennsylvanian Atlas is now accessible online at: http://www.pennsylvanianatlas.org. We have just begun adding species-level pages to this Digital Atlas.
Finally, PI Hendricks learned that his abstract (with co-authors) on the Neogene Atlas of Ancient Life was accepted for presentation in the session "Advancing the Digitization of Paleontology and Geoscience Collections: Projects, Programs, and Practices I" at the 2014 Annual Meeting of the Geological Society of America in Vancouver.

(Also see Jon's activities mentioned above under KU pertaining to the development of the portable device app.)

Finally, for our PEN partners. First, Texas, PI: Ann Molineux, Co-PI: James Sprinkle

During the next reporting period to accomplish their goals they plan to:

1. Complete the ongoing development of portal connection to GBIF via VertNet and thence to iDigBio HUB.
2. Concentrate on stage/age resolution for more of the records.
3. Increase the rate of georeferencing of localities.
4. Attach more images to records so they can become available to the TCN via the HUB.

Above are the four items that they recorded on the official NSF annual progress report:
1. We have now a data set with VertNet awaiting their processing prior to iDigBio access
2. Lou Zachos has just completed his update of the Paleogene and Neogene with stage/age resolution added and his entire database is now formatted for workbench upload into Specify.
Jim Sprinkle has resolved the early Paleozoic records to stage where possible. This data is being added into Specify. This is an ongoing process that would be much speedier were there an update function with Specify workbench.
3. Georeferencing is complete for the Zachos collection and will be added with (2)
4. About 1900 image attachments have been made. These include whole drawer images, specimen images, labels, field images, and notebooks.

And at Yale: From PI Susan Butts:

We have selected the top taxa from the Ordovician and the Pennsylvanian (50 most abundant genera from each time period) and are proceeding to digitize that material from our systematic collection. Since the previous report, 825 specimens have been cataloged. 237 of those have been fully digitized and are available online. 184 georeferenced localities were added to or modified in the database. An additional 4,366 images (specimens which were already cataloged electronically but in need of imaging) are ready to be uploaded in the next batch upload.
The multimedia interactive kiosk is nearing completion. The kiosk is centered on fossils of the Ordovician. It features a touchscreen monitor which features fossil identification and videos and text about the activities within the Invertebrate Paleontology Division. When

it is deployed in the public area of the museum, it will be manned by an EVOlutions interpreter (from the SciCORPS program), who will assist kiosk visitors in keying out common Ordovician taxa. Videos include: behind the scene tours of the collections, interviews with scientists describing their work on Ordovician fossils, how fossils are identified and digitized, information about the geologic history during the Ordovician, and the rationale for why we digitize fossils – to track biodiversity in the context of climate change.

Share and Identify Best Practices and Standards (including Lessons Learned)

Nothing to report.

Identify Gaps in Digitization Areas and Technology

Nothing to report.

Share and Identify Opportunities to Enhance Training Efforts

Nothing to report.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

Nothing to report.

Share and Identify Opportunities and Strategies for Sustainability

Nothing to report.

Other Progress (that doesn't fit into the above categories)

Nothing to report.

Attachment

https://www.idigbio.org/sites/default/files/webform/tcn-reports/iDigBioupdateAugust2014.pdf

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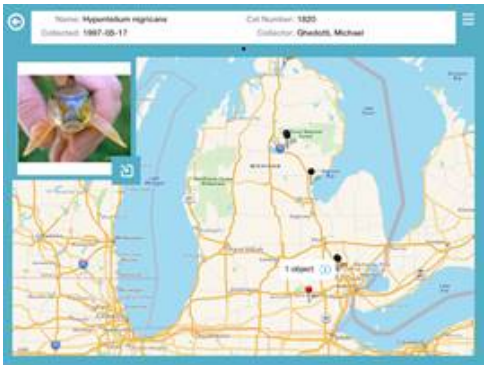

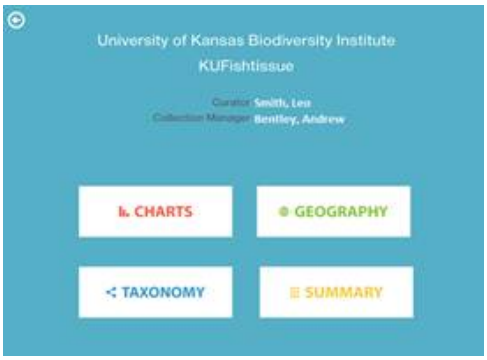

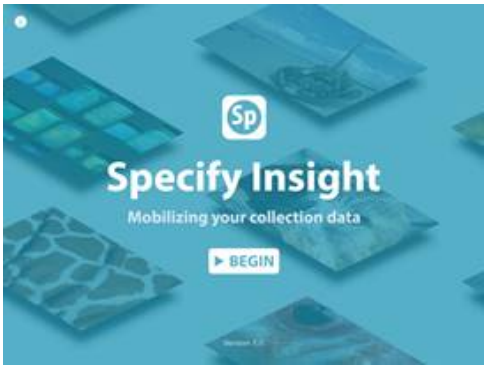

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Fossil Insect Collaborative: A Deep-Time Approach to Studying Diversification and Response to Environmental Change

Report submitted by: talia.karim@colorado.edu
Report Submitted on: 09/02/2014 - 11:50

Progress in Digitization Efforts

All TCN members are continuing to database and image specimens. The AMNH reports that they have added nearly 3,000 records for their Dominican Amber Collection as well as several hundred images. The CUMNH has updated their web portal (invertpaleosearch.colorado.edu) with the addition of many newly digitized specimen records and images. Harvard-MCZ reports that they have added about 1600 images, accounting for about 1200 specimens from the collection. They also just received the equipment for setting up a second rock fossil imaging system and an amber imaging system (the latter to be integrated in a pre-existing stereomicroscope), and are planning on hiring two part-time digitization assistants this fall.

S. Butts (PI-Yale Peabody) and C. Norris (co-PI-Yale Peabody) are having bi-weekly meetings with Whirl-i-gig about the development of the iDigPaleo data aggregation portal. Over the summer they have been collecting sample datasets from Fossil Insect TCN members and are working on how the data will be aggregated and shared with iDigBio. CUMNH has set up an IPT to provide data and is working to solutions for image linking. AMNH will be providing straight from Specify. Yale is creating an IPT. We are hoping for a beta version of iDigPaleo to be ready later this fall (2014) or early winter (2015).

T. Karim (co-PI-CUMNH) worked with J. McCaffery (iDigBio) this summer to improve the quality of data being shared with GBIF through the CUMNH IPT server. Image URLs are now being served to GBIF and data are more accurately mapped.

Share and Identify Best Practices and Standards (including Lessons Learned)

Nothing to report.

Identify Gaps in Digitization Areas and Technology

Nothing to report.

Share and Identify Opportunities to Enhance Training Efforts

Nothing to report.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

The CUMNH and AMNH have been in touch with the Specify team regarding the recent changes to the data model and the location of Paleo Context information. The AMNH will be moving this table to their locality table (following the Swedish Museum of Natural History) and the CUMNH will be moving the Paleo Context to Collecting Event (following the U. of Kansas). The CUMNH was ask by Specify to send them a copy of their Specify database to act as a test conversion. Karim tested the converted database and found no issues with the conversion.

Our TCN has attended a web meeting and plans to work on the AR flashcard project. We have selected at least one specimen for the project (Tse Tse fly from the CUMNH collection) and TCN members at the INHS will be experimenting with amber photogrammetry this month in hopes that we might be able to submit another specimen to the project. The reflective surface of the amber might make photogrammetry impossible though.

T. Karim worked with G. Nelson (iDigBio) and T. White (Yale Peabody) to finalize details of the Geosocience Digitization session being held at the Annual Geological Society of America Meeting (Oct. 2014). Over 35 abstracts were submitted and the session was expanded by GSA from a half day to a full day session with a poster session. Details and abstracts can be found here:

https://gsa.confex.com/gsa/2014AM/webprogram/Session35281.html
https://gsa.confex.com/gsa/2014AM/webprogram/Session36614.html
https://gsa.confex.com/gsa/2014AM/webprogram/Session36615.html

Share and Identify Opportunities and Strategies for Sustainability

Nothing to report.

Other Progress (that doesn't fit into the above categories)

Sam Heads (PI-INHS) published a paper on a new pygmy cricket from the Sanderson Dominican Amber collection they are digitizing as part of the TCN project. The press release included a video narrated by David Attenborough (https://www.youtube.com/watch?v=kN8pGc3-odY&feature=youtu.be&list=UUzq2rnoZ4iC-30wYZkqRrGw).

Attachment

N/A

PLANTS, HERBIVORES AND PARASITOIDS: A MODEL SYSTEM FOR THE STUDY OF TRI-TROPHIC ASSOCIATIONS

Report submitted by: moon@begoniasociety.org
Report Submitted on: 09/02/2014 - 14:40

Progress in Digitization Efforts

Number of insects (labels transcribed) for the TTD-TCN project: 1,054,638
Number of plants (imaged, labels transcribed) for the TTD-TCN project: 479,162
Number of other records aggregated by project: 1,206,250

Share and Identify Best Practices and Standards (including Lessons Learned)

Continuing work with Joanna regarding best practices for including project attribution information. Important if we are to share other data, besides TCN data, aggregated in our database(s).

Identify Gaps in Digitization Areas and Technology

Improved methods for sharing georeferenced localities, or searching by a database of already georeferenced localities.

Share and Identify Opportunities to Enhance Training Efforts

On 8 July 2014, 24 high school students from the Everett Children's Adventure Garden (ECAG) came to the Herbarium for a tour and a presentation on the digitization workflow at NYBG. The following week, 8 of the students volunteered to come in for training on data entry in Symbiota. From 15 July 2014 – 26 August 2014, the students came in once a week to transcribe records, contributing ca.1350 complete specimen records to the project. High school volunteers come to ECAG about 4 times a year so we plan to continue this relationship with them.

Mari Roberts met with Marisa Miller, an AP Environmental Science teacher from East-West School of International Studies who will be implementing our crowdsourcing module into her classroom. She will train students in data capture and they will gain extra credit points for their efforts.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

Katja Seltmann began working with Yonggang Liu to upload insect images using the image appliance. Kim Watson has been working with the image appliance to upload large image files.

Share and Identify Opportunities and Strategies for Sustainability

Nothing to report.

Other Progress (that doesn't fit into the above categories)

Nothing to report.

Attachment

N/A

THE MACROFUNGI COLLECTION CONSORTIUM: UNLOCKING A BIODIVERSITY RESOURCE FOR UNDERSTANDING BIOTEC INTERACTIONS, NUTRIENT CYCLING AND HUMAN AFFAIRS

Report submitted by: barbara.thiers@gmail.com
Report Submitted on: 09/02/2014 - 15:35

Progress in Digitization Efforts

To date, 431,220 specimens have been newly digitized (imaged and label data at least partially databased) of a projected 603,620 for the project. Thus, the digitization component of the project is approximately 71% complete. The total number of searchable records in the Mycoportal is now 1,714,065, or 401,245 more than originally projected, The reason the actual number is so much larger than anticipated is that we have had more records contributed from institutions not funded by the project than originally anticipated. To date, eight of the 32 funded institutions have completed their digitization work and five others are 70% or more complete.

In this third year of the project, more effort is being devoted to record completion. Of the 431,220 records newly created during the project, 349,133 have all collection event data transcribed from the specimen label, leaving 82,475 records for which the remaining collection event data must be added.

Share and Identify Best Practices and Standards (including Lessons Learned)

Nothing new to report

Identify Gaps in Digitization Areas and Technology

There are two gaps in Symbiota that we are attempting to address with a new subcontract to Arizona State University. One change is to make it possible to sort collections in table view in Symbiota -- this will make it possible to group records for editing that will have similar values that can quickly be added to a set of records. The other is to incorporate the data parsing protocols in Salix into Symbiota.

Share and Identify Opportunities to Enhance Training Efforts

nothing new to report -- training aspect of this project is completed.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

This summer we purchased imaging equipment for the New York State Museum and spent three days training them to digitize their fungal, bryophyte and lichen, vascular plant and algal specimens so that they can participate in a variety of TCN projects.

Share and Identify Opportunities and Strategies for Sustainability

nothing new to report.

Other Progress (that doesn't fit into the above categories)

We have three institutions that are now just beginning funded work on the project. University of Arizona, which was included in the original proposal but deferred participation until the third year; Purdue University, which has just had a new subcontract activated (using funds originally awarded to University of Mississippi, which decided against participating in the project; and University of Vermont, which was recently awarded a PEN grant for adding their specimens to the project.

Attachment

N/A

THE MACROALGAL HERBARIUM CONSORTIUM: ACCESSING 150 YEARS OF SPECIMEN DATA TO UNDERSTAND CHANGES IN THE MARINE/AQUATIC ENVIRONMENT

Report submitted by: Chris.neefus@unh.edu
Report Submitted on: 09/02/2014 - 16:30

Progress in Digitization Efforts

In the first year of the project, the digitizing institutions have:
Created 382,035 specimen records
Imaged 109,022 specimens
Fully transcribed 57,964 labels
Georeferenced 40,773
Uploaded 189,905 specimen records to the portal

Share and Identify Best Practices and Standards (including Lessons Learned)

nothing to report

Identify Gaps in Digitization Areas and Technology

nothing to report

Share and Identify Opportunities to Enhance Training Efforts

nothing to report

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

We have suggested a symposium on algal specimen digitization at next summers Phycological Society of America meeting in Philadelphia.

Share and Identify Opportunities and Strategies for Sustainability

nothing to report

Other Progress (that doesn't fit into the above categories)

nothing to report

Attachment

https://www.idigbio.org/sites/default/files/webform/tcn-reports/digitization%20numbers.xlsx

Digitizing Institution	Collection	Collection Size	Records Created	Imaged	Fully Transcribed	Geo-referenced	On Portal
University of New Hampshire	NHA	85,000	59,727	54,000	16,992	9,283	59,727
	CONN	2,145	2,145	1,973	1,973	2,089	2,145
Field Museum	F	109,505	30,000			0	967
University of Michigan	MICH	60,000	23,987	21,427	7,775	256	23,987
Bishop Museum	BISH	78,795	52,131	4,420	11,846	24,073	0
University of California - Berkeley	UC	202,000	80,000				0
	GMS	5,294	5,294	0	5,294	36	5,294
	DAV	1,958	1,958	1,958	1,958	1,616	1,958
	HSC	2,000	259	259	184	2	259
New York Botanical Garden	NY	150,000	76,824	11,756	4,792	1,503	76,824
University of North Carolina	NCU	60,000	14,508	8,019	2,916	1,867	14,508
Duke University	DUKE	19,000	16,000	4,186	4,186		4,186
University of Washington	WTU	25,000	14,180				0
	FHL	4,972	4,972			0	0
	ALA	7,182	0	1,021	0	0	0
University of Alaska	ALAJ	8,300	50	3	48	48	50
Totals			382,035	109,022	57,964	40,773	189,905
				0.574087	0.3052263	0.2147021	

INVERTNET: AN INTEGRATIVE PLATFORM FOR RESEARCH ON ENVIRONMENTAL CHANGE, SPECIES DISCOVERY AND IDENTIFICATION

Report submitted by: chdietri@illinois.edu
Report Submitted on: 09/02/2014 - 17:53

Progress in Digitization Efforts

At the lead institution, 14 drawer digitizing systems have been completed and fully tested except for the tilting camera head. We experienced some additional delays in manufacturing this part of the production systems so, to provide a backup solution, we are now working on two alternative machine configurations simultaneously. The two configurations are identical except for the camera head and some details of the machine control software related to the different geometries of the two alternative heads. Because we are still not sure how much time it will take to complete the manufacture of the more complicated, tilting heads, we are now pursuing a second option, which is to replicate the 3-axis head on the prototype machine that is now in operation at INHS. This prototype is fully tested and capable of capturing the perpendicular and tilted images of drawers needed to expose the data labels on the pins but requires an additional 3 minutes to capture an image set for one drawer (15 minutes versus 12 minutes for the 5-axis system). The prototype system also has the drawback of having to tilt the drawer four times (front, back, left, right) in order to capture a full set of images for each drawer, which involves additional handling of each drawer and some additional risk of specimen damage. We will continue to pursue these two tracks in order to minimize further delays until we can make a final determination on which alternative is the most viable, given our desire to finish the project by the end of year 4 (June 2015). Most other aspects of the drawer digitization workflow are in place and operational but additional development is underway to optimize image stitching to increase speed and accuracy, to make the graphical user interface for the machine control software more user friendly, and to finalize user's guides and training materials for the drawer digitization system. Summaries for numbers of collection objects digitized project-wide are available at invertnet.org.

Share and Identify Best Practices and Standards (including Lessons Learned)

nothing to report

Identify Gaps in Digitization Areas and Technology

nothing to report

Share and Identify Opportunities to Enhance Training Efforts

nothing to report

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

nothing to report

Share and Identify Opportunities and Strategies for Sustainability

nothing to report

Other Progress (that doesn't fit into the above categories)

nothing to report

Attachment

N/A

MOBILIZING NEW ENGLAND VASCULAR PLANT SPECIMEN DATA TO TRACK ENVIRONMENTAL CHANGE

Report submitted by: p_sweeney@att.net
Report Submitted on: 09/04/2014 - 09:56

Progress in Digitization Efforts

Capture of collection level-information (i.e., "pre-capture") is almost complete. At this stage approximately 800,000 specimens have been pre-captured -- with at least current identification captured. As part of the primary digitization phase, approximately 177,500 records and 158,000 images have been captured.

Share and Identify Best Practices and Standards (including Lessons Learned)

nothing to report

Identify Gaps in Digitization Areas and Technology

nothing to report

Share and Identify Opportunities to Enhance Training Efforts

nothing to report

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

We continue to collaborate with, iPlant, the FilteredPush project, the Symbiota team, and iDigBio. We are collaborating with Melody Basham (Arizona State U.), iDigBio, and other TCNs to develop a Augmented Reality tool that will be useful in K-12 education.

Share and Identify Opportunities and Strategies for Sustainability

nothing to report

Other Progress (that doesn't fit into the above categories)

nothing to report

Attachment

N/A

SOUTHWEST COLLECTIONS OF ARTHROPODS NETWORK (SCAN): A MODEL FOR COLLECTIONS DIGITIZATION TO PROMOTE TAXONOMIC AND ECOLOGICAL RESEARCH

Report submitted by: neilscobb@gmail.com
Report Submitted on: 09/09/2014 - 15:20

Progress in Digitization Efforts

see attached

Share and Identify Best Practices and Standards (including Lessons Learned)

We are identifying best practices on a weekly basis and sharing those with respective people within SCAN.

Identify Gaps in Digitization Areas and Technology

We need to harvest additional data (i.e. beyond SCAN) to better understand the biogeography of arthropod taxa. We are partially meeting this need by incorporating GBIF into the SCAN database.

Share and Identify Opportunities to Enhance Training Efforts

Nothing new to report, we are working on activities already described in previous reports.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

We are primarily working with Tri-Trophic TCN in order to develop questions for analyzing ADBC data. We presented a joint paper at the 21st Century meeting May 5, 2014. We are working with Katja Seltmann and others in developing workflows for modeling.

Share and Identify Opportunities and Strategies for Sustainability

We have a sustainability plan for Colorado State University, they are finished using their NSF funding http://scan1.acis.ufl.edu/content/sustainability.

Other Progress (that doesn't fit into the above categories)

We are starting to share North American data from other sources to increase the quantity of data. These will greatly increase the usability of the existing SCAN data, especially understanding species distributions and more complete species lists. We are hosting North American data from GBIF and are in the process of hosting data from Tri-Trophic TCN and other non-TCN arthropod data sets that have been harvested by iDigBio. With these additional records we are currently serving over 4.9 million records for 57,229 species.

Attachment

https://www.idigbio.org/sites/default/files/webform/tcn-reports/SCAN_Sept_2014.docx

Southwest Collections of Arthropods Network Update

September 12, 2014September 12, 2014

Neil Cobb

Progress in Digitization Efforts:

We are on target to meet our second-year quota for digitizing labels from pinned specimens. Table 1 presents three sets of statistics as of Sept 3, 2014. These include data from institutions that are funded by SCAN, institutions that are entering data into the SCAN portal but not funded by SCAN, and the total records in the SCAN portal. We have added
Sept

Table 1. Number of specimen records digitized and associated summary statistics. From http://symbiota4.acis.ufl.edu/scan/portal/index.php

	SCAN funded	SCAN non-funded	TOTAL SCAN
# Specimen Records	667,341	128,380	795,721
# Georeferenced	506,003	40,619	546,622
# Identified to species	429,353	73,451	502,804
# Families	687	41	728
# Genera	6,729	1,403	8,132
# Species	15,076	4,721	19,797
% Georeferenced	76%	32%	69%
% Ided to Species	64%	57%	63%

We have also started creating high-resolution images taken by a subset of SCAN museums that are committed to producing specimen images. Table 2 lists the number of images posted on SCAN by theses participating museums. Our goal is to produce ~16,000 high-resolution images suites. An image suite consists of 1-5 images representing different aspects of a specimen. This will translate into approximately 40,000 images. We are currently behind on our projections due to unexpected logistical challenges but we expect to continue to greatly increase our productivity over the fall, 2014. The major addition to images is from the University of Hawaii, which has uploaded

Table 2. Number of images posted on SCAN portal from SCAN museums that are focused on producing high-resolution images of specimens. Data are recorded from http://symbiota1.acis.ufl.edu/scan/portal/imagelib/photographers.php

Institution	# High-Resolution Images
Arizona State University	1,716
Colorado State University	49
Northern Arizona University	1,020
Denver Museum of Nature and Science	617
University of New Mexico	80
Northern Arizona University - NPS	673
New Mexico State University	910
Texas Tech University (mostly low-res images)	24,993
University of Arizona (low res images)	38,890
University of Hawaii (low res images)	517
University of Colorado	0
TOTAL	**69,465**

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Share and Identify Best Practices and Standards (including Lessons Learned):
We are identifying best practices on a weekly basis and sharing those with respective people within SCAN.

Identify Gaps in Digitization Areas and Technology:
We need to harvest additional data (i.e. beyond SCAN) to better understand the biogeography of arthropod taxa. We are partially meeting this need by incorporating GBIF into the SCAN database.

Share and Identify Opportunities to Enhance Training Efforts:
Nothing new to report, we are working on activities already described in previous reports

Share and Identify Collaborations with other TCNs, Institutions, and Organizations:
We are primarily working with Tri-Trophic TCN in order to develop questions for analyzing ADBC data. We presented a joint paper at the 21st Century meeting May 5, 2014. We We are working with Katja Seltmann and others in developing workflows for modeling.

Share and Identify Opportunities and Strategies for Sustainability:
We have a sustainability plan for Colorado State University, they are finished using their NSF funding http://scan1.acis.ufl.edu/content/sustainability .

Other Progress (that doesn't fit into the above categories): We are starting to share North American data from other sources to increase the quantity of data. These will greatly increase the usability of the existing SCAN data, especially understanding species distributions and more complete species lists. We are hosting North American data from GBIF and are in the process of hosting data from Tri-Trophic TCN and other non-TCN arthropod data sets that have been harvested by iDigBio. With these additional records we are currently serving over 4.9 million records for 57,229 species.

DEVELOPING A CENTRALIZED DIGITAL ARCHIVE OF VOUCHERED ANIMAL COMMUNICATION SIGNALS

Report submitted by: msw244@cornell.edu
Report Submitted on: 09/11/2014 - 15:15

Progress in Digitization Efforts

We have now completed the first year of activities for this project. The key outcome from our Year 1 activities has been the digitization of many hours of audio recordings to create over 10,100 new media specimens, as detailed below. These recordings ("media specimens") are now available through, and playable at, the Macaulay Library website (MacaulayLibrary.org), and we are developing plans to push the data to iDigBio and VertNet. The list below details the major bodies of material digitized during the latest reporting period:

(1) Bird audio recordings. We have now digitized 1,025 recordings of analog audio tape recordings (325+ since the last report), in particular material from recordist Daniel Lane (Louisiana State University) collected in Peru and Ecuador during the late 1990's. We also have digitized a total of 1,004 recordings (125+ since last report) made by researcher Kristof Zyskowski (Yale Peabody Museum).

(2) Anuran audio recordings. We have now begun work on the very large body of neotropical frog recordings collected by William Duellman (University of Kansas); to date 274 of these have been digitized and archived in the Macaulay Collection. Additional bodies of anuran audio material, mostly open reel and cassette tapes, have been delivered from the Smithsonian Institution and University of Texas.

(3) Fish EOD recordings from Cornell University Museum of Vertebrates. Macaulay Library staff worked with CUMV research technician John Sullivan (supported by this award) and researcher Carl Hopkins to develop and test protocols for the digitization, archival, web-presentation, and delivery of electric organ discharge (EOD) signal data from mormyrid and gymnotiform fishes (a signal modality that does not lend itself to current audio standards).

With these media now digitized and archived at the Macaulay Library, particularly the large body of material from KU, the stage is set to create the links across databases between physical specimen and media specimen.

Share and Identify Best Practices and Standards (including Lessons Learned)

The Macaulay Library uses an audio archival standard of 96kHz 24-bit, the audio standard recommended by Sound Directions: Best Practices for Audio Preservation <http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml> and a standard

Identify Gaps in Digitization Areas and Technology

There are no accepted standards for the preservation and subsequent presentation of electric organ discharges produced by e-fish. During the past year, Macaulay Library audio archival staff worked with staff at CUMV to develop archival and web-proxy presentation protocols in collaboration with e-fish researchers that will serve as a model formats for EODs.

Share and Identify Opportunities to Enhance Training Efforts

Personnel from this TCN project visited partner institutions and participated in meetings/summits to facilitate the work undertaken and for exchange of information. For example, Smithsonian researcher Addison Wynn visited the Macaulay Library in August 2014 to assist with metadata entry and digitization of specimens, Texas research Travis LaDuc will be visiting the Macaulay in October 2014 for the same purpose, and Co-PI Ed Scholes attended and gave a presentation at the 'Collections for the 21st Century' Symposium (May 2014). Importantly, the iDigBio Steering Committee approved our proposal to conduct a workshop on digitization of vertebrate specimens, to be held in early May 2015 at Cornell.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations

No collaborations with other TCNs at this time, but we are exploring data-cleaning and geo-referencing capabilities developed by other TCNs.

Share and Identify Opportunities and Strategies for Sustainability

National-level reporting of iDigBio achievements, e.g. Heretofore resources now available to the public.

Other Progress (that doesn't fit into the above categories)

In addition to the digitization outcomes detailed above, several of the partner institutions have made significant progress on data cleaning and data migration in preparation for linking their specimens to digitized audio recordings. For example, CUMV recently completed the migration of its specimen data from Specify to Arctos, making all specimen records accessible online to anyone at http://arctos.database.museum/cumv_all. Individual records now have stable GUIDs that can be linked to Macaulay Library media records, and these data are now being pushed to FishNet 2, VertNet and GBIF on a regular basis. Incorporation of these data into the iDigBio portal is planned for the future. Similarly, CUMV staff are continuing to complete clean up of specimen metadata (e.g, georeferencing locality data, taxonomy, etc.), and have begun adding links to online resources tied to their voucher specimens (i.e., GenBank records, DOIs and citations for publications citing e-fish vouchers, etc.), and have starting adding images of electric fish voucher specimens (e.g., see http://arctos.database.museum/guid/CUMV:Fish:96774).

Attachment

N/A