

## Bi-Monthly Progress Reports To iDigBio Submitted By Active Thematic Collections Networks (TCNs)

## September 2016

## Reports included:

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⊠ LBCC	⊠ VACS	⊠ SERNEC
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## Submission #906

Submission information -

Form: TCN Bi-Monthly Progress Report to iDigBio

Submitted by chdietri

Wednesday, September 21, 2016 - 12:25

130.126.115.31

#### **TCN Name:**

InvertNet: An Integrative Platform for Research on Environmental Change, Species Discovery and Identification

## Person completing the report:

chdietri@illinois.edu

## **Progress in Digitization Efforts:**

Digitization continues to focus on capture of whole-drawer images of insect collections at the lead and collaborating institutions. Efforts to upgrade the cyberinfrastructure platform have begun but will not be completed until November at the earliest. In the mean time, problems with the current infrastructure are preventing some drawer images from displaying correctly and these problems are being addressed by the INHS technical team. The lead institution continues to receive hard drives containing whole-drawer images from collaborators and these are being copied to the InvertNet storage system and backed up but the images will not be displayed on the website until the infrastructure upgrade has been completed.

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:

Share and Identify Opportunities and Strategies for Sustainability:

Share and Identify Education and Outreach (E&O) Activities:

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

Attachment



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## Submission #891

Submission information -

Form: TCN Bi-Monthly Progress Report to iDiqBio

Submitted by neilscobb

Tuesday, September 13, 2016 - 18:02

24.121.65.222

#### **TCN Name:**

Southwest Collections of Arthropods Network (SCAN): A Model for Collections Digitization to Promote Taxonomic and Ecological Research

## Person completing the report:

neilscobb@gmail.com

## **Progress in Digitization Efforts:**

see attached

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

see attached

**Identify Gaps in Digitization Areas and Technology:** 

see attached

**Share and Identify Opportunities to Enhance Training Efforts:** 

see attached

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

see attached

Share and Identify Opportunities and Strategies for Sustainability:

see attached

**Share and Identify Education and Outreach (E&O) Activities:** 

see attached

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

see attached

Attachment

SCAN Sept 2016.docx

## Southwest Collections of Arthropods Network Update September 20, 2016 Neil Cobb

## **Progress in Digitization Efforts:**

The SCAN TCN grant ended July 1, 2016 although three of the ten collections will officially operate through a one-year no-cost extensions and all collections will continue to digitize. We will also continue to support and solicit new PEN grants and we plan to be an active and growing network well beyond 2020.

We have exceeded our quota for digitizing labels from pinned specimens, the original goal was to obtain 736,736 records from the original 10 institutions and 958,736 total records when we included the three PEN projects. We welcome the addition of a fourth PEN partner, the Academy of Natural Sciences Philadelphia, which launched OrthopNet on July 1, 2016. OrthopNet will focus on grasshoppers (Acrididae) and will feature the involvement of Daniel Otte. This fourth PEN will contribute an additional 54,000 records. Table 1 presents seven sets of statistics

Table 1. Number of specimen records digitized and associated summary statistics. From <a href="http://symbiota4.acis.ufl.edu/scan/portal/index.php">http://symbiota4.acis.ufl.edu/scan/portal/index.php</a> . SCAN-funded numbers refers to the 10 original museums receiving ADBC funding. SCAN PEN includes the three additional museums. SCAN nonfunded numbers include 37 museums contributing cataloged specimen data and non-cataloged moth specimen data from 33 collections (5 private collections and 28 public museums). InvertEBase numbers refer to arthropod records contributed by the InvertEBase TCN. Total Served includes all SCAN data and other datasets with North American arthropod records (e.g., GBIF, Tri-Trophic TCN, iNaturalist). Yellow cells represent estimates.

	SCAN	SCAN PEN	SCAN Broader	Added Value			SCAN Original 10 Collections & Only Ground-
	Total	Total	Impact	Collections	InvertEBase	TOTAL	Dwelling
Specimens	1,118,546	980,294	1,640,293	4,461,627	287,746	8,557,888	780,905
Georeferenced	950,314	618,624	1,177,666	3,599,874	78,460	6,505,147	733,726
Imaged	116,023	537	130,687	127,299	0	383,507	81,001
Species ID	608,916	348,665	800,563	2,524,527	79,643	4,388,719	475,122
Families	2,847	2,334	2,886	3,570	768	3,384	154
Genera	13,487	8,899	23,253	21,615	6,489	19,979	730
Species	32,144	26,001	63,458	72,331	19,834	103,354	1,739
Total Taxa	33,321	26,570	64,042	74,705	19,855	106,461	1,802
# of collections	10	4	41	15	2	72	10

Yellow cells represent estimates



derived from our data portal as of Sept 7, 2016. These contain the following sets of data: 1) the original 10 institutions funded by the NSF-ADBC program, 2) the three additional PEN grants; 3) institutions that have entered data into the SCAN portal but not funded by the NSF-ADBC program; 4) added value collection data from institutions that we have requested their data to be shared on SCAN as well as iDigBio (via IPT); 5) arthropod records produced by InvertEBase, and 6) the total records in the SCAN portal including museums that provide SCAN with an IPT or API to harvest their data and also provide data to aggregators GBIF and/or iDigBio. The purpose of serving as much arthropod data that we can is to provide as complete as information as possible to persons that are considering research projects. We do not serve all arthropod data on SCAN to aggregator portals, we focus on providers that have North American occurrence data and the provider gives us explicit permission to serve their data.

Table 1 also shows the total number of records submitted by all 10 original SCAN collections that are restricted to ground-dwelling taxa targeted in the NSF proposal (Column 7; SCAN original 10 collections & only ground-dwelling). For the ground-dwelling arthropods alone we have exceeded our initial goal for images and specimen records. We expect to digitize at least 50,000 more ground-dwelling arthropod specimens by the end of the project and over 1.7 million total specimens for the original 10 museums. The three additional PEN grants (Harvard, BYU, and Ohio State University) are on track to meet their quotas. Table 1 shows all data provided by PEN institutions, Table 2 shows the target quotas for all SCAN collections, including the PEN institutions. The numbers in Table 2 for PEN institutions only include records and taxa specified

Table 2. Data for ADBC funded SCAN collections, the first two columns show target goals and the remainder of the columns show results for ground-dwelling arthropods.

	SCAN T	argets	SCAN Deliverables (August 16, 2016)							
Institution	Specimen Records Quota	# of species to be imaged for SCAN	Total Specimen Records Provided	Total Specimen Records Georeferen ced	Total Specimen Records Ided to Species	Number of Specimen Images Produced		Number of Genera	Number of Species	Total Taxa Recorded
Texas A&M University	255,026	0	307,674	291,208	205,171	0	84	1,443	5,277	5,442
University of Arizona	90,045	0	95,777	81,355	68,896	87,079	84	942	3,388	3,454
Texas Tech University	74,652	2,175	173,833	124,784	46,788	24,515	589	1,415	3,083	3,222
University of Colorado at Boulder	68,797	1,740	80,836	80,817	412	584	152	1,074	2,223	2,530
Denver Museum of Nature & Science	61,123	3,235	127,880	123,385	56,990	241	178	873	2,383	2,540
Arizona State University	56,705	1,658	74,899	74,808	63,801	1,625	144	1,323	3,823	4,132
University of New Mexico	36,124	1,740	36,919	36,866	17,819	75	425	1,844	2,976	2,985
Colorado State University	36,090	918	87,189	74,398	80,120	40	289	1,530	3,787	4,004
Northern Arizona University	34,355	1,875	58,307	57,052	16,745	1,220	411	1,128	1,485	1,507
New Mexico State University	23,819	1,784	80,362	39,937	54,789	647	493	2,928	5,950	6,064
Total Original	736,736	15,125	1,123,676	984,610	611,531	116,026	1,157	6,339	20,076	20,902
Harvard	90,000	217	87,658	39,471	63,452	0	1	NA	NA	1,456
BYU	52,000	300	53,918	47,780	44,633	1	118	602	1,966	2,119
Ohio State	80,000	0	55,484	55,481	29,113	0	4	NA	NA	NA
ANSP	54,000	0	NA	NA	NA	NA	NA	NA	NA	NA
Total All	1,012,736	15,642	1,320,736	1,127,342	748,729	116,027	1,280	6,941	22,042	24,477



in the grant proposal and thus are much smaller than their numbers reported in Table 1.

A subset of SCAN museums are creating high-resolution images and three museums are creating low resolution images that include the specimen and labels in the same image. Table 3 lists the number of images posted on SCAN by participating museums. Our goal was to produce 15,125 high-resolution images suites. An image suite consists of 1-3 images representing different aspects of a specimen. This will translate into approximately 40,000 images. Three museums are producing low-resolution images (University of Hawaii, University of Arizona, and Texas Tech University). We host iNaturalist records and 77% of those records have at least one image (121,285 total images).

## 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 http://scan1.acis.ufl.edu/.

## **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 meeting this need by incorporating additional collections into the SCAN database, including observational records from iNaturalist.

**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 other Symbiota TCNs.

## Share and Identify Opportunities and Strategies for Sustainability:

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

Other Progress (that doesn't fit into the above categories): We continue to provide North American data we have obtained from other sources to increase the quantity of data available to SCAN users. We have grown from serving 10 collection datasets to serving 83 data sets through SCAN. There are five categories of data sets listed; 1) SCAN ADBC funded collections, including PEN projects; 2) SCAN collaborator collections that do not received ADBC funding, 3) Moth data collected from non-cataloged specimens, 4) Aggregator collections (Data served directly to iDigBio/GBIF but also on SCAN) and 5) Arthropod records produced through InvertEBase. These latter two categories will greatly increase the usability of the existing SCAN data, especially understanding species distributions and more complete species lists. We are rebuilding our data harvested from North American data from GBIF and are in the process of hosting data from other non-TCN arthropod data sets that have been harvested by iDigBio.

Beginning with the next update we will fully separate statistics associated with SCAN versus the new TCN LepNet



Table 3. Number of images posted on SCAN portal from SCAN museums that are focused on producing high-resolution images of specimens and non-ADBC funded museums. Data are recorded from <a href="http://symbiotal.acis.ufl.edu/scan/portal/imagelib/photographers.php">http://symbiotal.acis.ufl.edu/scan/portal/imagelib/photographers.php</a>. Categories include 2= ADBC-funded collections (n=10), 1= Non-funded collections (n=14), and 0= added value collections (n=3).

Collection	# Images	Category
University of Arizona Insect Collection	87,079	2
Texas Tech University - Invertebrate Zoology	24,515	2
Arizona State University Hasbrouck Insect Collection	1,627	2
Colorado Plateau Museum of Arthropod Biodiversity	1,220	2
New Mexico State Collection of Arthropods	647	2
University of Colorado Museum of Natural History Entomology Collection	584	2
Ohio State C.A. Triplehorn Insect Collection	536	2
Denver Museum of Nature & Science	241	2
Museum of Southwestern Biology, Division of Arthropods	75	2
C.P. Gillette Museum of Arthropod Diversity	40	2
TOTAL	116,564	10
University of Hawaii Insect Museum	118,443	1
Yale Peabody Museum, Entomology Division	10,050	1
The Albert J. Cook Arthropod Research Collection	1,844	1
UAM Insect Collection	1,570	1
Tall Timbers Research Station Natural History Museum	1,372	1
Entomology Collection at the Natural History Museum of Utah	927	1
Archbold Biological Station Arthropod Collection	460	1
Hymenoptera Institute Collection	424	1
Virginia Polytechnic Institute and State University Insect Collection	384	1
University of Tennessee at Chattanooga	278	1
SDSU Terrestrial Arthropods Collection	138	1
University of Delaware Insect Research Collection	111	1
BLM Mother Lode Field Office: The Bees of Pine Hill Preserve	64	1
Florida Museum of Natural History, McGuire Center for Lepidoptera and		
Biodiversity	44	1
TOTAL	136,109	14
iNaturalist Research-grade Observations	121,285	0
Field Museum of Natural History Collection of Insects, Arachnids, and		
Myriapods	6,663	0
University of Kansas Natural History Museum Entomology Division	4,445	0
TOTAL	132,393	3
GRAND TOTAL	385,066	27



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## Submission #890

Submission information-

Form: TCN Bi-Monthly Progress Report to iDiqBio

Submitted by cgries

Tuesday, September 13, 2016 - 17:29

144.92.62.242

#### **TCN Name:**

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

## Person completing the report:

cgries@wisc.edu

## **Progress in Digitization Efforts:**

As of August 2016 the number for the LBCC are as follows:

Lichens:

http://lichenportal.org

Herbaria actively submitting images or key stroked records to the portal: 81

Specimen records in portal: 1,956,975 (up by 2,661 since July 2016)

Specimen records with images: 736,188 (remaining steady since July 2016)

Records with locality information: 1,779,168 (15,434 locality information where added since July 2016)

2016)

Currently 48% of lichen records are fully georeferenced

Bryohpytes:

http://bryophyteportal.org

Herbaria actively submitting images or key stroked records to the portal: 76

Specimen records in portal: 2,267,996 (up by 4,586 since July 2016)

Specimen records with images: 1,221,261 (remaining steady since July 2016)

Records with locality information: 1,667,270 (59,556 locality information where added since July

2016)

Currently 29% of bryophyte records are fully georeferenced

## 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:

Share and Identify Opportunities and Strategies for Sustainability:

Share and Identify Education and Outreach (E&O) Activities:

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

**Attachment** 



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## Submission #896

Submission information -

Form: TCN Bi-Monthly Progress Report to iDigBio

Submitted by mwdenslow

Thursday, September 15, 2016 - 08:54

98.245.84.251

#### **TCN Name:**

SERNEC: The Key to the Cabinets: Building and Sustaining a Research Database for a Global Biodiversity Hotspot

### Person completing the report:

michael.denslow@gmail.com

## **Progress in Digitization Efforts:**

All SERNEC:

There are 61 collections serving data through the SERNEC portal. There are currently 2,014,808 specimens records and 122,405 (6%) of those records are georeferenced.

There are currently 1,288,721 imaged specimen images available.

#### Arkansas:

UARK: 17,096 specimens were barcode labeled and 14,400 specimens were imaged during the reporting period. All students who worked on the project in this period were hired in the previous period or earlier.

UCAC: Five undergraduate student assistants were hired during the reporting period. 9,500 specimens were imaged (out of 17,179 barcode labeled; 55%; so far only Arkansas specimens targeted), and 438 had collector information added (4.6% of those imaged). In addition to students imaging specimens for pay on the grant, Alex Reed is earning two credits (6 hrs/week) adding collector information (in addition to his paid efforts).

ANHC: The ANHC herbarium moved to their new home at the end of August, 2016. Their new facility includes a wet lab, a research and imaging lab, and a separate climate-controlled herbarium room with enough space to accommodate approximately 150,000 specimens in compactors. A compactor system has been ordered and is expected to be installed by the end of October 2016. Full label data for the entire accessioned collection is already complete and imaging will begin this winter. State funding has been obligated for the purchase of a SERNEC-style digitization station which will stay at ANHC to image future accessions.

#### Georgia:

GA: 44,000 GA specimens were imaged during the reporting period (158,000 to date). 90,955 GA (specimens from Georgia) uploaded to the Symbiota portal.

VSC: VSC uploaded 67,037 specimen records with 66,970 with images to the Symbiota portal.

COLG: 3,332 images uploaded to Symbiota portal and linked to existing records.

GSW: Richard Carter (VSC) facilitated Stephanie Harvey (GSW) in getting set up in the Symbiota portal.

GAS: 230 specimens were imaged during this time period (6,575 to date).

AASU: The AASU Curator (Melanie Link-Peréz) has left the institution for another position. GAS personnel have contacted Michele Guidone, faculty member and new contact at Armstrong State University, concerning collections access for imaging activities.

### Kentucky:

EKY: Imaged 14,517 specimens during the reporting period. The total imaged during this project is now 50,528, which is ~70% of our collection. Two students were hired over this time period. MDKY: Summer 2016. Two students hired (Kelsey Boyd and Kendall McDonald). 5,605 specimens imaged during the reporting period.

Mississippi: One graduate student worked on the project during the reporting period. During this time she completed georeferencing of 2,598 records in the MISSA collection (all available at that time) and entered/edited data for 1,278 records from MISSA. MISSA currently has 39,246 records in the Symbiota portal; 20,063 contain transcribed label information, and 17,390 of these have been georeferenced.

## **Share and Identify Best Practices and Standards (including Lessons Learned):** All SERNEC:

The SERNEC – TCN protocols continue to be updated as needed and are posted on the SERNEC resources site (http://sernec.appstate.edu/resources).

## Arkansas:

UARK keeps a spreadsheet with columns for date, hours worked per employee, number of specimens barcode labeled, number of specimens imaged, initials of workers, and activities performed. This daily record makes it easy to report and estimate progress of each facet of the project.

## **Identify Gaps in Digitization Areas and Technology:**

All SERNEC:

Nothing to report.

#### Arkansas:

Arkansas is faced with the challenge right now of fixing images in CyVerse (iPlant) that were uploaded in the wrong orientation (on their side). The SERNEC Data Manager has been working closely with CyVerse staff and Travis Marsico at STAR to get this fixed. Deleting the uploaded images and remapping the image link to the SERNEC Portal is complicated. We are working toward a workflow that would allow for correcting these mistakes to be easier. We need something straightforward to easily fix situations in which images are uploaded with errors, such as not being rotated.

#### EKY:

Light bulbs on the eBox have been failing making the white balance difficult to impossible to calibrate correctly. No funds were included in the budget for replacement bulbs. We have ordered replacement bulbs using other funds, but they have been back ordered for 3 months and have yet to arrive. Update on bulbs: it appears bulbs and ballasts for our eBoxes have been discontinued. This

may be problem for our project as the only option offered by the company is a \$800-\$900 upgrade to install LED lights. This requires sending the eBox in for the update. We are continuing to look for alternative solutions to this problem.

## Mississippi:

SilverBiology software continues to be problematic and slows data entry. Images were not processed correctly, which impeded transfer to the Symbiota portal, which led to reductions in the number of records that could be transcribed/georeferenced in the database. Dealing with these issues has reduced the amount of time I could have spent entering or checking data.

## **Share and Identify Opportunities to Enhance Training Efforts:**

All SERNEC:

Noting to report.

#### Arkansas:

State lead Travis Marsico set up the imaging station at UCAC and trained student workers in June, 2016. Spending the day with the students, answering their questions, and having them capture images was effective training. Scheduling a single, full or half training day seems to work well.

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

All SERNEC:

SERNEC members remain active in the Symbiota and Education and Outreach iDigBio working groups.

### Kentucky:

EKY has been collaborating with Herrick Brown and Alan Weakley to create state floras on the SERNEC portal based on Weakley's Flora of the Southeast. A KY list is complete and posted. Soon lists for all states will be posted. All State lists will be children lists to the parent checklist that will contain all species of the southeast Unites States. We have also posted two other checklists based on works by Ron Jones that can be found on the portal under Inventories > Kentucky Flora in the Symbiota portal. It is our hopes that other states will begin to do the same. Many scientific names have been added to the SERNEC portal as a result of this process which will make data entry easier for all.

## Mississippi:

Collaborations exist across the five largest herbaria in MS; digitization of all of these collections is supported through another grant.

## Share and Identify Opportunities and Strategies for Sustainability:

All SERNEC:

Nothing to report.

## **Share and Identify Education and Outreach (E&O) Activities:**

All SERNEC:

A new version of Notes From Nature launched in May. The SERNEC images and workflow played an integral role by informing what features to develop for the new platform. Travis Marsico has been experimenting with additional ways to utilize Notes From Nature is his classes. An example can be found here: https://blog.notesfromnature.org/2016/09/09/thanks-and-a-new-approach-for-using-nfn-in-the-classroom/

We continue to regularly post SERNEC related content through blogs, and social media accounts.

#### Arkansas:

The roll-out of the new Notes from Nature allowed PI Marsico to create the first three expeditions on Biospex from Arkansas. These three expeditions were released on Notes from Nature simultaneously, and two of the three expeditions are completed, with the other expected to be complete within the first week of September. These three expeditions were associated with blog posts on the Notes from Nature site. Also, PI Marsico wrote an article that was published in the Arkansas Native Plant Society Newsletter, Claytonia. The article was titled, "Making the most of the legacy: Using Notes from Nature to discover and disseminate specimen label data." The link to this article can be found at: https://arkansasnativeplant.files.wordpress.com/2011/08/fall-2016-claytonia-final-web.pdf. Two native plants society members have already contacted Marsico with questions after the article was published on August 5.

## Kentucky:

Multiple checklists have been created for use with classes at EKU. These classes include Dendrology, Plant Systematics, and Aquatic and Wetland plants. These lists will soon be advertised to others in the region to make them aware of their presence and utility. Mississippi:

A checklist of plants for Mississippi is underway using the digitized collections.

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

All SERNEC:

Nothing to report.

## Kentucky:

Robert Pace an assistant curator at EKY has written a package called iDarwincore (https://github.com/QuePID/idarwincore) that is useful in diagnosing problems with data on the SERNEC Symbiota Portal. We plan on presenting this at meetings this coming year and perhaps publishing a short paper.

#### Mississippi:

One poster presentation was given at Botany 2016 by Wallace, entitled "Digitization of Mississippi herbarium specimens aids in understanding plant diversity in the Southeast and improves K-12 education". Authors include Lisa E. Wallace, Mabi Hosseinalizadehnobarinezhad, Mac Alford, Nina Baghai-Riding, Megan Fredrick, Lucile McCook, and Heather Sullivan

## West Virginia:

Volunteers have now transcribed approximately 3,500 specimens through the crowdsourcing module in Symbiota.

## **Attachment**



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## Submission #868

Submission information-

Form: TCN Bi-Monthly Progress Report to iDigBio

Submitted by BruceL

Wednesday, September 7, 2016 - 13:24

24.124.69.244

#### **TCN Name:**

Digitizing Fossils to Enable New Syntheses in Biogeography- Creating a PALEONICHES

## Person completing the report:

blieber@ku.edu

## **Progress in Digitization Efforts:**

Regarding the University of Kansas portion of the project, led by PI Bruce S. Lieberman, we now have a total of 249,758 specimens databased. Further, we now have a total of 207,590 databased specimens that are also georeferenced. In addition, a total of 7,985 localities have been georeferenced. We are currently continuing to database our chidarian holdings and hope to be finished with those soon; our current plan is to then move on to either Bryozoa or Porifera. Other major taxonomic groups have been completely databased and georeferenced.

Regarding the portion of the project, led by PI Jon Hendricks:

PI Hendricks recently left San Jose State University (SJSU) for a new position (Director of Publications) at the Paleontological Research Institution (PRI) in Ithaca, New York. Working with SJSU, PRI, and NSF, Hendricks transferred the funding remaining in his portion of the Paleoniches-TCN to PRI. Most of the transferred funds will be used to employ Mr. Stephen Durham—a paleontologist with extensive prior experience working in the Cenozoic fossil collections at PRI and also public outreach activities—to accomplish three main goals. First, Mr. Durham will focus on digitizing Neogene fossils from the southeastern United States, focusing on an important newly acquired research collection developed by Dr. Patricia Kelley (Univ. of North Carolina Wilmington). Second, he will utilize the significant Neogene collections of the PRI to continue to add content to the existing Neogene Atlas of Ancient Life, focusing on adding taxa that are not yet represented on the Neogene Atlas and posting additional photographs of species that are already on the website. He will also add information about higher taxonomic groups (e.g., families) to the Neogene Atlas.

Share and Identify Best Practices and Standards (including Lessons Learned): Nothing new to report.

## **Identify Gaps in Digitization Areas and Technology:**

Nothing new to report.

## **Share and Identify Opportunities to Enhance Training Efforts:**

Regarding the University of Kansas portion of the project, dince the last update to iDigBio our new collections manager, Julien Kimmig, has begun working. In addition, we have hired a new post-doc, Luke Strotz, who has just begun working on the project. He will be pursuing research applications associated with studying ecological patterns during the Pennsylvanian period.

Regarding the portion of the project led by Jon Hendricks, see the information about Stephen Durham described above.

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

Bruce Lieberman had preliminary discussions with Neil Cobb, head of SCAN about possibly working together to expand the sharing and use of paleontological and neontological data for research and outreach purposes.

## Share and Identify Opportunities and Strategies for Sustainability:

Nothing new to report.

## Share and Identify Education and Outreach (E&O) Activities:

Regarding the portion of the project led by Jonathan Hendricks, Mr. Durham will be responsible (with assistance from Hendricks and other PRI staff) for developing novel educational and outreach materials that utilize the resources of the Neogene Atlas. Hendricks and other PRI staff have recently begun training Mr. Durham in some of the activities described above.

Also, prior to transferring the remaining PaleoNiches funds to the PRI, a SJSU undergraduate student added a significant number of species descriptions to existing Neogene Atlas species pages.

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

Regarding the University of Kansas portion of the project, a graduate student supported by the project recently completed a collections visit to the Yale Peabody Museum as part of her work studying biogeographic patterns in Pennsylvanian cephalopods using GIS.

## **Attachment**



<u>Home</u> > <u>TCN Bi-Monthly Progress Report to iDigBio</u> > <u>Webform results</u> > Submission #895

## Submission #895

Submission information-

Form: TCN Bi-Monthly Progress Report to iDigBio Submitted by tkarim Wednesday, September 14, 2016 - 18:55 128.138.65.71

#### **TCN Name:**

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

## Person completing the report:

talia.karim@colorado.edu

## **Progress in Digitization Efforts:**

The Fossil Insect Collaborative TCN has just started year four of the project. Nearly all collections are sharing data with iDigPaleo, the exception being University of Kansas, who only planned on digitizing during year 4. The AMNH amber collection is now digitized and in Specify. Paul Nascimbene (AMNH) is working with the AMNH IT team and Whirl-i-Gig (iDigPaleo developers) to upload the dataset into iDigPaleo. The AMNH Crato (Brazil) material will be digitized and uploaded in the coming months. All other TCN members continue to add specimen records and images to their databases, except for Yale who has completed their digitization and is now focusing on iDigPaleo development.

### CU-Boulder:

- Acquired 964 images during the reporting period.
- 485 new specimen records were added to Specify during this period and about 2,000 additional records have been updated with respect to determination, body description, and ID date.
- D. Zelagin (digitization assistant) has trained one new graduate student on how to use our imaging system. He has also been experimenting with using circular polarizing filters to enhance fine morphologic details in specimen images.
- We have completed the tasks of reprocessing images with incorrect scale bars. They have all been reattached to Specify and the data caches refreshed online.

#### MCZ:

- 38 specimens were added to the database for a total of 33,736.
- 1810 new specimen images were acquired for a total of about 24,200.

#### UCMP:

- 31 new database records were created for a total of 6,060
- 188 specimens were imaged for a total of 3,877
- Data and images are being shared via the UCMP IPT server.

#### VMNH:

• 606 specimen records were added to the database and 589 new images were acquired during the reporting period.

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

The VMNH reports: It is important to have a thorough digitization guide available that includes both detailed descriptions of all the software and hardware involved in the process as well as a concise, step-by-step list for the complete digitization workflow. The detailed section serves as a point of reference for new digitizers.

Yale-Peabody has started using Inselect on drawers of fossil insects and will share protocol at our upcoming TCN meeting in November. They also plan to write up a blog post for our TCN website in the coming months.

## **Identify Gaps in Digitization Areas and Technology:**

There is nothing to report.

## **Share and Identify Opportunities to Enhance Training Efforts:**

There is nothing to report.

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

CU-Boulder and Yale-Peabody are co-PIs on the Cretaceous World TCN and will be collaborating via iDigPaleo.

## Share and Identify Opportunities and Strategies for Sustainability:

There is nothing to report.

## **Share and Identify Education and Outreach (E&O) Activities:**

The FIC-TCN Facebook (572 likes) and twitter (146 followers) continue to be active, especially in conjunction with the UCMP weDIGbugs2 twitter feed (see below).

#### VMNH:

Blog Post by VMNH Paleontology intern, Lucy Treado, about her experience learning how to identify fossil insects from Solite Quarry and how to digitize them.

#### UCMP:

The Berkeley Fossil Insect PEN Twitter account, weDIGbugs2@bfi\_PEN (67 tweets, 141 followers, 152 likes), has been active making regular posts related to the project for Fossil Friday. These are cross-posted to the University of California Museum of Paleontology FaceBook page and often shared by others on Twitter and Facebook.

The project is recruiting students through the Undergraduate Research Apprentice program, giving them a non-classroom alternative to learning and being actively involved in research, which enhances their educational experience. URAP student Hiep Nguyen's work will be presented in a poster entitled, "Discovery Through Digitization: A new scentless plant bug (Family: Rhopalidae) from the Neogene Stewart Valley, Nevada, USA" - Paper 163-64," at the 2016 Geological Society of America meeting in Denver, CO.

Erwin (PI) and volunteer Marwa Elfaramawi talked about the Berkeley Fossil Insect PEN project during the day-long UC Berkeley's annual CalDay event and were joined by Hiep Nguyen who talked about his research with the public (http://ucmp.berkeley.edu/blog/archives/4254).

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

CU-Boulder has seen a significant increase in the number of digital e-loans of fossil insect specimens over the past two months.

A volunteer at the VMNH created a specimen ID for the Solite Quarry arthropods as a training tool for VMNH. This ID Guide includes several images with fossils in various preservation conditions as well as basic characteristics of the different orders. Starting August 8th, we added a paleontology intern to the project, Lucy Treado. She helps to complete and update the digitization protocol for digitizing the Solite invertebrates in our mission to facilitate dissemination of catalogued photos. She is utilizing the protocol as a tool to learn digitization and cataloging and testing its utility for training other volunteers/interns/staff. Ms. Treado will work for the fossil insect digitization project at VMNH for at least six months.

## **Attachment**



<u>Home</u> > <u>TCN Bi-Monthly Progress Report to iDigBio</u> > <u>Webform results</u> > Submission #889

## Submission #889

Submission information-

Form: TCN Bi-Monthly Progress Report to iDigBio

Submitted by akuhn

Monday, September 12, 2016 - 18:02

192.17.34.169

#### **TCN Name:**

The Microfungi Collections Consortium: A Networked Approach to Digitizing Small Fungi with Large Impacts on the Function and Health of Ecosystems

## Person completing the report:

akuhn@illinois.edu

## **Progress in Digitization Efforts:**

- 62,069 new records on the MyCoPortal
- 33,784 records georeferenced (complete records)

## **Share and Identify Best Practices and Standards (including Lessons Learned):**

• Improvements in digitization workflow to increase rate of image capture

### **Identify Gaps in Digitization Areas and Technology:**

 Progress made in genetic resource linkage function on MyCoPortal (http://www.microfungi.org/files/4214/6799/3353/Linking\_genetic\_resources\_to\_from\_GenBank.pdf)

#### **Share and Identify Opportunities to Enhance Training Efforts:**

• Trained participant (Joseph Myers) from ARIZ to begin digitization (16 Aug 2016)

## **Share and Identify Collaborations with other TCNs, Institutions, and Organizations:**

• MyCoPortal records used to locate specimens and request loans from Cornell (CUP), Berkeley (UC), and Harvard (FH) (30 Aug 2016)

## Share and Identify Opportunities and Strategies for Sustainability:

Nothing to report

#### **Share and Identify Education and Outreach (E&O) Activities:**

- Presented talk about project at Myxoblitz and Symposium at Great Smoky Mountains National Park (25 July 2016)
- Presented poster about project at Mycological Society of America Meeting (9 Aug 2016)
- MiCC featured in iDigBio newsletter, "Researchers Use MyCoPortal to Track Down Specimens Lost for Over 100 Years" (19 Aug 2016) (https://www.idigbio.org/content/researchers-use-mycoportal-track-down-specimens-lost-over-100-years)

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

• MyCoPortal cited in publication: "Microfungi from Nicaragua in a historical collection kept at the herbarium of the Charles University in Prague"

Gregorio DELGADO a\* & Ondřej KOUKOLb aEMLab P&K North Phoenix, 1501 West Knudsen Drive, Phoenix, AZ 85027, USA bDepartment of Botany, Faculty of Science, Charles University in Prague, Benatska 2, CZ-128 01 Praha 2, Czech Republic

Cryptogamie, Mycologie, 2016, 37 (1): 15-36

Abstract – A set of historical specimens collected by the American mycologist Charles Leonard Smith in southeastern Nicaragua during 1896 and currently deposited at the Herbarium of the Charles University in Prague (PRC) was examined for the presence of microfungi. Despite the age of the specimens, twenty-two taxa were identified, seventeen of them to species level and other five to generic level. All of them are recorded for the first time from Nicaragua. Cryptophiale cf. kakombensis and Sporoschisma juvenile were found associated with their putative teleomorphic states. Historical facts surrounding the expedition source of these samples and bibliographical data about Smith are also given.

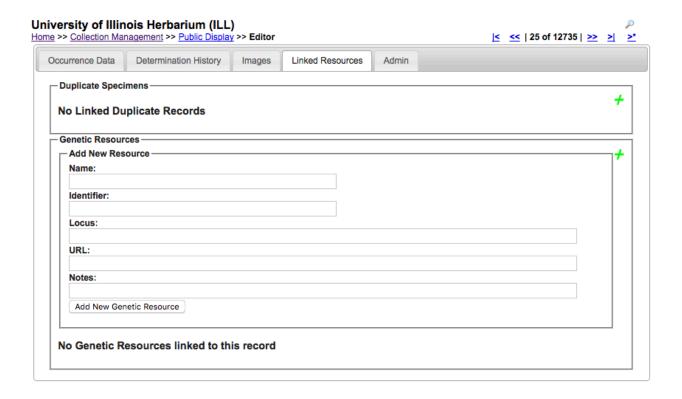
http://www.bioone.org/doi/abs/10.7872/crym/v37.iss1.2016.15

#### **Attachment**

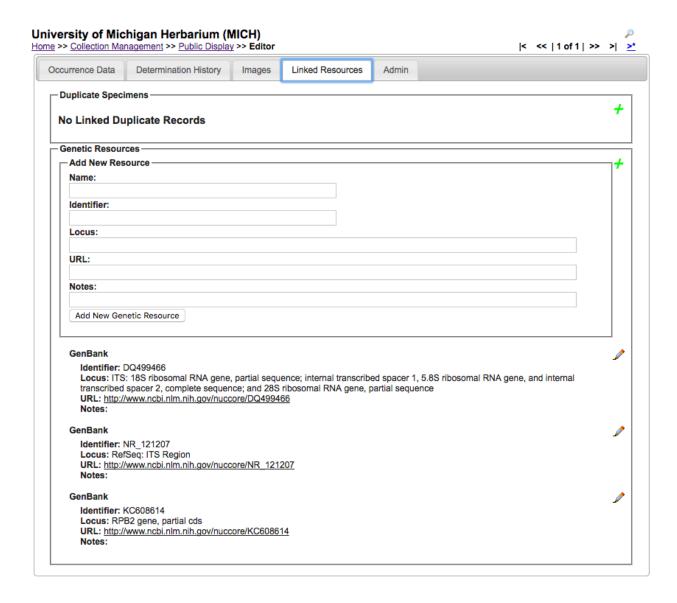
Linking genetic resources to from GenBank.pdf

## Linking specimen records with genetic data from Symbiota portals to GenBank

Step 1: Pull up the occurrence record you would like to add genetic data to and click on the Linked Resources tab. Then, click on the green cross to reveal the table for adding Genetic Resources.



Step 2: Complete the necessary fields as shown below. Name and Notes can remain empty, but Identifier (= GenBank accession number), Locus (= name of gene), and URL (= link to the GenBank record) should be filled out. Add additional gene sequences by clicking on the pencil icons.



## Linking specimen records with genetic data from GenBank to Symbiota portals

To create links to your portal, NCBI needs two XML files, an identity file and a resource file.

Step 1. Create your Identity File using the example below from the MyCoPortal and email to: linkout@ncbi.nlm.nih.gov

[Note to MyCoPortal users: Please email help@mycoportal.org and we will provide you with the mycoportal Providerid number]

The identity file contains the information needed to list a provider in LinkOut. This file must be named providerinfo.xml; the file name is case sensitive. This file should be composed in a text editor, such as NotePad, not in a word processing program.

The NCBI LinkOut staff will then assign you a unique ProviderId and provide you with instructions for uploading your Resource File via ftp.

## ProviderId Example File:

```
<?xml version="1.0"?>
<!DOCTYPE Provider PUBLIC "-//NLM//DTD LinkOut 1.0//EN"
"http://www.ncbi.nlm.nih.gov/projects/linkout/doc/LinkOut.dtd">
<Provider>
 <ProviderId>9439</ProviderId>
 <Name>Mycology Collections Portal</Name>
 <NameAbbr>MyCoPortal</NameAbbr>
 <SubjectType>herbarium/museum collections</SubjectType>
 <Url>http://www.mycoportal.org</Url>
 <Brief> On-line database of fungal specimen data</Brief>
</Provider>
```

Step 2. Create your Resource File using the example below. You can create a Resource File as xml, csv, or simple text. Instructions below are given for creating your Resource File as a csv file. For other methods, please refer to: http://www.ncbi.nlm.nih.gov/books/NBK3812/ ft.File Preparation Identity File

## Resource File example as a CSV file:

	A	В	С	D	E	F	G
1	ProviderId	Database	UID/Query	URL	IconURL	UrlName	SubjectType
2	####	nucleotide	AB080793 [accn]	http://mycoportal.org/portal/collections/individual/index.php?occid=2160623			herbarium/museum collections
3	####	nucleotide	AB080794 [accn]	http://mycoportal.org/portal/collections/individual/index.php?occid=2162722			herbarium/museum collections
4	####	nucleotide	AB080795 [accn]	http://mycoportal.org/portal/collections/individual/index.php?occid=2160683			herbarium/museum collections
5	####	nucleotide	AB193390 [accn]	http://mycoportal.org/portal/collections/individual/index.php?occid=1833176			herbarium/museum collections
6	####	nucleotide	AF042620 [accn]	http://mycoportal.org/portal/collections/individual/index.php?occid=1932644			herbarium/museum collections

ProviderId = your ProviderId assigned to you by NCBI LinkOut staff

Database = nucleotide

UID/Query = the GenBank accession number for the gene sequence you want to link your occurrence record with

URL = the url to that specific occurrence record in your portal (Note: each occurrence record has a unique occid)

Icon URL = [required, but leave blank]

UrlName = [required, but leave blank]

SubjectType = herbarium/museum collections

Step 3: Using the instructions provided by the NCBI LinkOut staff, ftp your ProviderId and Resource File to NCBI.

Step 4: Wait 48 hours and confirm GenBank sequences have been linked to your portal's occurrence records through NCBI's LinkOut feature.

## **Provider Statistics**

LinkOut collects statistics on the number of clicks on each providers's links in the LinkOut display.

Statistics can be emailed to the LinkOut contact monthly. If you would like to receive statistics, please notify the LinkOut Team at linkout@ncbi.nlm.nih.gov

Statistics send via email include the yearly and monthly totals for clicks on a provider's links (a CSV file with the same information is provided as an attachment as well).

Statistics may change for the first 2 weeks that they are available. After 2 weeks, statistics will be stable.

A sample statistics report is shown below.

The following is the usage statistics for your LinkOut links: (Hits = number of times users clicked your links)

Please note that statistics for the most recent month may change in the next report.

Database: Gene

Total: 629

ı	1	
	Month	Number of Hits
	8/2005	126
	7/2005	195
	6/2005	142
	5/2005	155
	4/2005	11

## Limiting a Search to Records with Links to a Specific Resource

loprovmycoportal[filter] to get all linked records for your portal

or, to search for linked records for a specific collection: loprovmycoportal[filter] AND MICH



<u>Home</u> > <u>TCN Bi-Monthly Progress Report to iDigBio</u> > <u>Webform results</u> > Submission #888

## Submission #888

Submission information -

Form: TCN Bi-Monthly Progress Report to iDigBio

Submitted by bthiers

Monday, September 12, 2016 - 12:10

69.74.186.251

#### **TCN Name:**

The Macrofungi Collection Consortium: Unlocking a Biodiversity Resource for Understanding Biotec Interactions, Nutrient Cycling and Human Affairs

### Person completing the report:

barbara.thiers@gmail.com

## **Progress in Digitization Efforts:**

In our second no-cost extension year, only three institutions are still retroactively digitizing specimens for this grant (University of Arizona, San Francisco State University, and The New York Botanical Garden). Many other institutions who completed their retroactive digitization continue to add records for new acquisitions. Since our last report, 20,878 specimens have been digitized and newly added 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 continue to collaborate closely with the Microfungi TCN -- most institutions in the project are participating in both fungal TCNS.

#### Share and Identify Opportunities and Strategies for Sustainability:

Discussions are on going with the Mycological Society of America, Mushroom Observer and Genbank to strengthen the linkage between these sites.

## **Share and Identify Education and Outreach (E&O) Activities:**

In June 2016, NYBG PIs Thiers and Halling held an open house and tour of the collection for the Long Island Mycological Society, the third such annual event held during the course of this project. This will likely be an annual event going forward.

Thiers spoke about the MycoPortal, and the Macro and Microfungal digitization projects at the Australasian Mycological Society in Queenstown, NZ in May 2016. at the Mycological Society of America meeting at U.C. Berkeley in August, 2016, and at the annual foray of the North American Mycological Society held in Front Royal, VA, Sept. 8--11, 2016.

Roy Halling has formed a consortium of professional and amateur mycologists called the Bolete Consortium, with the goal of documenting and sequencing all species of this group in North America. Thiers is serving as an advisor to the NAMA Mycoflora committee that is organizing the citizen scientist mycological community to document and sequence as many species of North American fungi as possible, using the Mycoportal as the repository for the voucher data about the specimens sequenced.

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

## **Attachment**



<u>Home</u> > <u>TCN Bi-Monthly Progress Report to iDigBio</u> > <u>Webform results</u> > Submission #900

## Submission #900

Submission information-

Form: TCN Bi-Monthly Progress Report to iDigBio

Submitted by EPICC

Thursday, September 15, 2016 - 17:08

136.152.142.85

### **TCN Name:**

Documenting Fossil Marine Invertebrate Communities of the Eastern Pacific - Faunal Responses to Environmental Change over the last 66 million years

### Person completing the report:

eclites@berkelev.edu

## **Progress in Digitization Efforts:**

As of 9/1/2016, the TCN has digitized 374,699 specimens, including 8999 that are currently searchable via the iDigBio portal. In addition we have photographed 16,126 specimens and georeferenced 8380 localities.

Georeferencing: UO continues to georeference Oregon localities from other TCN members. 592 of 1792 Oregon localities have either been georeferenced or their georeferencing has been validated. UO also created a new workflow for using the GEOLocate collaborative client, which will soon be available on our TCN webpage. At UCMP 630+ new locality descriptions were transcribed from paper ledgers and entered into the database. This will facilitate future georeferencing efforts. Georeferencing of all UCMP localities from CA state plane 2 is nearly complete. Checking TCN partner localities from CA state plane 1 is also nearly complete. Staff at the Burke are revising locality data from legacy collections.

Taxonomy: A shared folder of taxonomic references with contributions from multiple institutions was created. PRI continues to prepare specimens by checking taxonomy and authorities.

Original source material digitized: Ongoing transcription of CAS catalogs and field notebooks. Transcription of LSJU catalogs has also commenced. At LACM, preparation for participation in WeDigBio 2016 has included scanning one catalog ledger, with additional scans to come. This will enable skeleton records to be created for ~50,000 lots.

Workflows: NMNH has been doing preliminary work to prepare for a one week rapid capture pilot project with their digitization program office at the end of October. The planning includes object selection and curation, imaging tests, workflow development for both digital processes and physical movement of objects, and template building for loading label images in the Smithsonian transcription center. The one week project will help NMNH launch into imaging for the rest of the collection for EPICC with a fully documented and tested workflow. PRI continues to segregate and separate

material by locality. At LACM, photographing of historic labels is now incorporated into the imaging workflow. UAM incorporated the location of 1366 specimens within the collection into their database.

## **Share and Identify Best Practices and Standards (including Lessons Learned):**

Georeferencing: At UO, a KMZ file was created of their originally georeferenced localities so that they could view it in Google Earth while georeferencing the other TCN members' localities in GEOLocate. This has proved very effective.

Workflows: At the Burke, they have learned that it is better to database specimens first, and organize specimens by formation within the collection after that formation has been completely databased. The Burke is also calling in old loans of specimens related to EPICC. CAS has developed a workflow that relies on well trained volunteers to verify specimen locality information against original catalogs and field notebooks prior to specimen digitization to avoid perpetuation of erroneous information. Volunteers are also responsible for counting the number of specimens in significantly large lots. This allows our technicians who are responsible for verifying identifications, updating nomenclature, and entering specimen information into our database to avoid these additional time consuming tasks. At LACM, inventory continues to advise priorities and rapid workflow. They have much more material than is required per grant goals to catalogue/image, so prioritization and efficiency are key.

## **Identify Gaps in Digitization Areas and Technology:**

The photographic equipment the Burke purchased for EPICC photography has arrived and staff are currently being trained to use it. They will begin photographing specimens in earnest immediately after training. At LACM KE-EMu database implementation will happen by October. Test version is being tested and data cleaning/migration will begin in mid October-December. They expect the cataloguing progress to slow down during this time. At PRI, their microscope camera/lenses and lighting need to be upgraded. UCMP is working on their photographic workflow to ensure original identification cards are photographed at the same time as specimens. Taxize "R" software package is not working as well as hoped to speed verification of taxonomic names. UO has run into technology issues when they have tried to update the database web portal and the GBIF files. This has been an issue with Specify and PI Davis' computer, and has prevented them from making their data available to iDigBio. They hope to have their data available to iDigBio by the next report.

## **Share and Identify Opportunities to Enhance Training Efforts:**

CAS continues to train Careers in Science interns in specimen imaging techniques and media file management. CAS and UCMP are collaborating in the development of specimen imaging and specimen labeling protocols. We will soon begin organizing georeference training videos produced by iDigBio and others to train new students, as well as hosting a TCN-wide conference call to explain the scope of the EPICC project to new students.

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

CAS hosted Austin Hendy from LACM including discussions of best practices and workflows. Continued collaboration with the CAS Careers in Science program. LACM continues ongoing informal collaboration with the Southern California Paleontological Society (increasing their volunteer pool), as well as with contract workers for United States Geological Survey. UCMP has been talking with potential future PENs including the San Diego Museum of Natural History. UCMP staff continue to collaborate with iDigBio staff to plan the third iDigBio Paleo Digitization meeting, to be held in Berkeley in March 2017.

## **Share and Identify Opportunities and Strategies for Sustainability:** Nothing to report.

## **Share and Identify Education and Outreach (E&O) Activities:**

PRI-UCMP Virtual Fieldwork Experience (VFE) group continues to meet via videoconference to prepare the first VFE on the Kettleman Hills and how the project will be presented at this fall's

Geological Society of America meeting. We continue to make progress on this VFE, including posting gigapan photos, assembling specimen photographs taken at multiple institutions, received approval to use digital geologic map from Santa Barbara Museum of Natural History and working out the framework and NGSS requirements. Students continue to work in the collections at multiple museums, cataloging specimens, georeferencing localities and helping with other tasks. CAS has ongoing work with the high school Careers in Science program. CAS conducted several collections tours in which current EPICC activities and projected products have been highlighted.

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

Our annual meeting will be held Sept. 8-9 at the Burke Museum with participants from all institutions expected. Check-in calls were conducted in early August to inform the meeting agenda, which will primarily focus on taxonomy.

#### **Attachment**



Home > TCN Bi-Monthly Progress Report to iDigBio > Webform results > Submission #897

## Submission #897

Submission information -

Form: TCN Bi-Monthly Progress Report to iDigBio Submitted by psweney

Thursday, September 15, 2016 - 09:07

130.132.173.219

#### **TCN Name:**

Mobilizing New England Vascular Plant Specimen Data to Track Environmental Change

## Person completing the report:

patrick.sweeney@yale.edu

## **Progress in Digitization Efforts:**

Capture of collection level-information (i.e., "pre-capture") is complete. Approximately 800,000 specimens have been pre-captured -- with at least current identification captured. As part of the primary digitization phase, approximately 707,164 records and 753,565 images have been captured. We have begun to capture phenology data using new functionality in Symbiota.

## 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 wiil be participating in the upcoming WeDigBio event.

## Share and Identify Opportunities and Strategies for Sustainability:

nothing to report

## **Share and Identify Education and Outreach (E&O) Activities:**

nothing to report

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

nothing to report

#### Attachment



<u>Home</u> > <u>TCN Bi-Monthly Progress Report to iDigBio</u> > <u>Webform results</u> > Submission #898

## Submission #898

Submission information -

Form: TCN Bi-Monthly Progress Report to iDigBio Submitted by kmcameron Thursday, September 15, 2016 - 10:53 128.104.98.139

#### **TCN Name:**

Great Lakes Invasives: Documenting the Occurrence through Space and Time of Aquatic Nonindigenous Fish, Mollusks, Algae, and Plants Threatening North America's Great Lakes

### Person completing the report:

kmcameron@wisc.edu

## **Progress in Digitization Efforts:**

See uploaded PDF for totals and other information. We are currently displaying 920,000 specimen records in our portal. More are on the way so that we should cross the 1 million mark very soon.

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

See uploaded PDF

## **Identify Gaps in Digitization Areas and Technology:**

See uploaded PDF

## **Share and Identify Opportunities to Enhance Training Efforts:**

See uploaded PDF

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

Share and Identify Opportunities and Strategies for Sustainability:

Share and Identify Education and Outreach (E&O) Activities:

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

## Attachment

GLITCN progress report Sept2016.pdf

#### DATA PROGRESS SEE TABLES BELOW

## 1) Share and Identify Best Practices and Standards (including Lessons

We found the best workflow in data entry begins with staff researching nomenclature before volunteers are given the specimens. This reduces extra time spent proofreading and correcting later. The workflow is now: pull specimens from collection  $\rightarrow$  research nomenclature and add new names to database  $\rightarrow$  volunteers enter data  $\rightarrow$  (volunteers photograph specimens  $\rightarrow$  we export to iDigBio)  $\rightarrow$  proofread data entry  $\rightarrow$  add any annotations to database  $\rightarrow$  import to main internal database  $\rightarrow$  export to Symbiota.

To Date: Sept 15, 2016

## 2) Identify Gaps in Digitization Areas and Technology

We are continuing the transition from our old database to BRAHMS. An export from BRAHMS to Symbiota was made in late April 2016 with some fields not being populated correctly in the migration. We are working with the developer to correct these problems.

## 3) Share and Identify Opportunities to Enhance Training Efforts

Continual volunteer training as issues arise is necessary to maintain data quality. One dedicated volunteer has now been trained to help proofread data entered by other volunteers. This will help ease the bottleneck between data entry and import to Symbiota.

Native and invasive look-alikes identification materials' first draft is almost complete. The guide includes line drawings, herbarium specimen images, and in-situ photos. The ID guide will be included in the Experience Boxes and will be available online. As collections were made for the Experience Boxes, we took more photos in-situ to use in the ID guide.

## 4) Share and Identify Collaborations with other TCNs, Institutions, and Organizations

We are continuing work with The Field Museum in creating an aquatic invasives Experience Box. We collected over 200 specimens for use in the boxes. Target species included AIS and their lookalikes. Collections will be finished by the end of September 2016. Volunteers at MOR are beginning to mount the specimens. Teacher evaluations of the lesson plans will be scheduled for later this fall.

The Outreach Coordinator is attending iDigBio Education and Outreach working group webinars and is collaborating with other members of the working group to plan a workshop scheduled for Dec 5 and 6, 2016 at Q?rius, The Coralyn W. Whitney Science Education Center at the Smithsonian National Museum of Natural History, Washington, D.C.: "Incorporating K-12 Outreach into Digitized Collections Programs." This workshop will bring together educators and collections personnel. Participants will collaborate to

write a white paper outlining best practices for scientists looking to engage with K-12 students and educators.

The Outreach Coordinator is collaborating with iDigBio along with other institutions in a working group entitled "Biodiversity to Explore Applied Statistical Techniques." The group is developing a module for undergraduate educators to incorporate natural history records into statistics curricula. Invasive species in the Great Lakes will be used as a case study in this project. The Outreach Coordinator will serve as an expert on Great Lakes AIS and will bring a botanical perspective.

## 5) Share and Identify Opportunities and Strategies for Sustainability

We found digitization volunteers are happiest when they have some variety in the taxa they are using. When a one genus is very large and photographing specimens takes weeks, volunteers seem less engaged. We receive more positive feedback when they can work with diverse taxa. This is similar to feedback previously reported about diversity in data entry.

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

The Outreach Coordinator will be presenting her outreach progress and plans at the Upper Midwest Invasive Species Conference in October 2016.

Several participants attended the Annual Botany2016 Conference in Savannah, GA where we attended symposia and workshops on herbarium data use and outreach

Ken Cameron, PI presented a poster on the TCN at the Society for Conservation Biology North American meeting, Madison, WI

## **GREAT LAKES TCN DATA visible in Symbiota Portal as of 9/15/2016**

Herbarium	Specimen Records	Georeferenced	Imaged
New York Botanical Garden	147009	57219	141829
Total Illinois	57391	5076	29432
J. F. Bell Museum of Natural History Herbariur	r 83762	11552	41259
Field Museum of Natural History	62462	55158	53497
Wisconsin State Herbarium at UW-Madison	93661	15000	91174
University of Michigan Herbarium	75829	7788	67808
Michigan State University	18175	0	18066
New York State Museum	0	0	
Morton Aboretum	15907	1773	14141
Willard Sherman Turrell Herbarium, Miami Un	i 18188	1	18152
Robert W. Freckmann Herbarium at the Unive	ι 0	0	
Greene/Nieuwland Herbarium, University of N	1 0	0	
Friesner Herbarium, Butler University	3312	2	3166
Ohio State University Herbarium - Plants	394	0	394
University of Wisconsin-LaCrosse	5261	2372	3464
University of Wisconsin-Milwaukee	7525	793	7300
Bartley Herbarium, Ohio University	4924	0	4924
Central Michigan University	3742	289	3711
Albion College	1232	16	1223
Andrews University Herbarium	0	0	
Calvin College	0	0	
E. C. Smith Herbarium	0	0	
Eastern Michigan University Herbarium	2395	560	2272
Grand Valley State University	4336	12	4277
Green Plant Herbarium	18906	9832	0
Harriet Irving Botanical Gardens	0	0	
Herbarium, Biodiversity Centre of Ontario	10230	0	10230
Herbier Louis-Marie (QFA) - Collection de plan	1 13321	9895	0
Herbier du Quebec (QUE) Collection de plante	504	504	0
Hillsdale College Herbarium	3635	15	3616
Hope College	0	0	
Jardin Botanique de Montreal	1286	37	0
Marie-Victorin Herbarium	35383	13491	394
Seney National Wildlife Refuge	207	0	207
University of British Columbia Herbarium	26521	14165	3654
Illinois Natural History Survey	48010	5076	20124
University of Illinois Herbarium	9381	0	9308
University of Manitoba Vascular Plant Herbari	t 5745	5566	0
University of Toronto at Mississauga Herbariu	r 10920	4014	0
Universite de Montreal Biodiversity Centre	0	0	
Western Michigan University	0	0	
Plant Totals	789554	220206	551645

Fish	Specimen Records	Georeferenced	Imaged
Field Museum of Natural History - Fish	4855	94	1497
Illinois Natural History Survey - Fish	29371	8325	12846
J. F. Bell Museum of Natural History - Fish	10685	9077	3298
Ohio State University Museum of Biological Di	9033	0	9005
University of Michigan Museum of Zoology - F	i 34434	1762	48
University of Wisconsin-Madison Zoological M	4601	445	3952
Fish Totals	92979	19703	21465

Mollusks	Specimen Records	Georeferenced	Imaged
Field Museum of Natural History - Mollusks	6438	159	0
Illinois Natural History Survey - Mollusks	5716	5553	5716
J. F. Bell Museum of Natural History - Mollusks	0	0	
Ohio State University Museum of Biological Di	2376	0	2350
University of Michigan Museum of Zoology - N	22351	2	414
University of Wisconsin-Madison Zoological M	531	425	137
Mollusk Totals	37412	6139	2901
GRAND TOTAL	919945	246048	576011



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## Submission #894

Submission information-

Form: <u>TCN Bi-Monthly Progress Report to iDigBio</u> Submitted by BruceL

Wednesday, September 14, 2016 - 16:04

24.124.69.244

#### **TCN Name:**

The Cretaceous World

## Person completing the report:

blieber@ku.edu

## **Progress in Digitization Efforts:**

Regarding the University of Kansas portion of the project, led by PI Bruce S. Lieberman, associated with this project we have databased 10,472 specimens. Most of these specimen records are also georeferenced. At present we are focusing on databasing our ammonoids, as these represent a significant part of our collection strengths. In addition, associated with this project a total of 466 localities have been georeferenced.

Regarding the associated South Dakota School of Mines & Technology project led by co-PI Laurie Anderson they have recruited an RA for the project and she will start working in the spring semester. They are also beginning to get the collection ready for databasing, including by establishing workflows.

Regarding the Paleontological Research Institution portion of the project, led by PI Jonathan Hendricks

PI Hendricks recently left San Jose State University (SJSU) for a new position (Director of Publications) at the Paleontological Research Institution (PRI) in Ithaca, New York. Working with SJSU, PRI, and NSF, Hendricks transferred the new CretaceousWorld-TCN funding to PRI, effective August 16, 2016.

Hendricks will begin work on his part of the project on Sept. 1 (his first day of employment at PRI), focusing first on developing the underlying structure for the future Cretaceous Atlas of Ancient Life website. He will also begin working with the other project PIs to develop an efficient workflow for transferring images and occurrence data to PRI for integration with the Cretaceous Atlas.

Regarding the Yale University portion of the project, led by PI Susan Butts, during this period:

2,515 localities were georeferenced; 4,404 specimens were databased (in EMu); and 8,625 specimens were imaged (most from multiple orientations).

Regarding the Fort Hays State University portion of the project, led by PI Laura Wilson:

They have started data checking their invertebrate collection. The specimen data have been transcribed into an electronic file, but they're making sure they have the location of all the specimens in collection (as in drawer and cabinet and presence/absence of physical specimens) in the database. They have also hired a graduate and undergraduate student to work on the grant. Finally, they have ordered a computer and relevant software and submitted bids for camera equipment.

Regarding the University of Colorado portion of the project, led by PI Talia Karim:

They hired Dave Zelagin to manage digitization efforts here at CU. He will be in charge of the daily imaging and georeferencing efforts. Zelagin and Karim (PI) have outlined a schedule for digitization of the CU-Boulder collections. Zelagin will begin working through the georeferencing materials made available online by iDigBio and begin georeferencing in September 2016. They plan to hire an undergraduate to being updating specimen data in Specify in September 2016.

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

Yale University has also developed a protocol for multi-specimen rapid imaging using open source InSelect (included as an attachment).

## **Identify Gaps in Digitization Areas and Technology:**

Nothing new to report.

## **Share and Identify Opportunities to Enhance Training Efforts:**

Nothing new to report.

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

Yale University is also collaborating with the Fossil Insect Collaborative (YPM PIs are both PIs on both TCNs).

Share and Identify Opportunities and Strategies for Sustainability:

Share and Identify Education and Outreach (E&O) Activities:

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

#### **Attachment**

YPMinselect imaging protocol.pdf

# Yale Peabody Museum Division of Invertebrate Paleontology InSelect Imaging Protocol

for concretions/multi-specimen slabs

- 1. Catalog one specimen on concretion
- 2. For entire specimen, set high and low focus points in stackshot using zoom focus, adjust # steps for thickness
- 3. Set file storage location to C:WIS TCN\WIS TCN Photos\specimen date
- 4. Shoot overlapping segments of the concretion using "run again" on stackshot
- 5. Stack each segment and label composites as: specimen number-a, specimen number-b, etc.
- 6. Delete all files except composites
- 7. Use Photoshop: File->Automate->Photomerge (reposition)
  - a. Measure length of 1cm or 1mm in pixels using ruler
  - b. Save image as: specimen number 1cm=xxxpx (with selected unit and measured pixels)
  - c. If you take more than one side of the concretion, save images as: specimen number-1 1cm=xxxpx, specimen number-2 1cm=xxxpixels, etc.
- 8. Delete composite files
- 9. Open photo in InSelect
- 10. Draw boxes around each fossil
  - a. boxes must be over 400 pixels on each dimension when in doubt, include surrounding matrix (even if it overlaps another fossil)
  - b. Save crops
  - c. Save .csv
  - d. Open crops in Windows Explore, sort by dimensions (view=details, right click on header to add dimensions) to make sure all are over 400px
- 11. Open .csv in Excel
  - a. Delete all columns except A
  - b. Columns: A=image number from camera, B=specimen number, c=orientation, d=pixel length, e=unit of pixel equivalent (i.e. mm or cm)
- 12. Move stacked composite image, thumbnail, InSelect file, and .csv file in the cropped images file

12/5/2016 Submission #912



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## Submission #912

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio

Submitted by mikewebster

Wednesday, September 28, 2016 - 10:52

128.84.6.98

### **TCN Name:**

Developing a Centralized Digital Archive of Vouchered Animal Communication Signals

## Person completing the report:

msw244@cornell.edu

## **Progress in Digitization Efforts:**

Thus far in 2016, our TCN has digitized 3,194 audio recordings, which includes 1,050 digitized during the past two months. We completed archival work on the Smithsonian anuran collection, and will now move ahead on establishing database linkages for that material. We have also continued archival work on the Texas Natural History Collection material, and digitized Rafe Brown's cassettes in preparation for archiving that material (which is the last batch of outstanding KU material).

## 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 <a href="http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml">http://www.dlib.indiana.edu/projects/sounddirections/papersPresent/index.shtml</a> and a standard adopted by leading audio archival institutions such as the Library of Congress and The British Library.

## 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

## **Share and Identify Education and Outreach (E&O) Activities:**

We are currently organizing a workshop, to be held in late October, on digitizing, preserving and making accessible behavioral data. This would include digitized audio and video recordings of the sort that are the focus of this TCN.

12/5/2016 Submission #912

## Other Progress (that doesn't fit into the above categories): Nothing to report

## **Attachment**