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

March 2017

Reports included:

☒InvertNet	☒ MHC	☒ Cretaceous World
☐ LBCC	☒ GLI	☒ Megalopolis
☒ NEVP	☒ InvertEBase	☒ LepNet
☒ SCAN	☒ SERNEC	☒ Paleoniches
☐ VACS	☒ MiCC	
☒ FIC	☒ EPICC	

iDigBio is funded by a grant from the National Science Foundation's Advancing Digitization of Biodiversity Collections Program (Cooperative Agreement EF-1115210). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Submission #972

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by BruceL
Saturday, April 15, 2017 - 13:28
24.124.69.244

TCN Name:
The Cretaceous World: Digitizing Fossils to Reconstruct Evolving Ecosystems in the Western Interior Seaway

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 14,979 Cretaceous specimens total, with 385 databased since the last reporting period in early February. 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 2,091 localities have been georeferenced thus far, 440 since our last reporting period. We have also begun our imaging associated with the project and have imaged 320 Cretaceous specimens since our last reporting period in early December.

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

Since the last report, he has focused on the following activities related to the project:

1) At the current time, there is no published list of valid taxonomic names for Late Cretaceous invertebrate fossils from the Western Interior Seaway (WIS). This is a problem because it prevents all members of the Cretaceous World TCN from using a common taxonomic framework for data entry, preventing standardization across the TCN. PI Hendricks is working to overcome this hurdle by developing such a list based on existing databased collections at five of the Cretaceous World TCN partner institutions (YPM, UNM, KUMIP, CU and UT). Each of these institutions have provided Hendricks with lists of WIS taxa derived from their existing databases. These individual lists have been compiled into a single database and Hendricks is currently researching each of the hundreds of taxonomic names and determining their status (e.g., whether the name is valid, or whether it is a synonym of a different name) using—in most cases—the primary literature. This work is somewhat slow-going, but will provide a very valuable resource not only for members of this TCN, but also the broader paleontological community; further, information from the list is being used as the backbone for developing the new Cretaceous Atlas of Ancient Life, so the new list serves this purpose as well.

Additions to the list are being put online as soon as they are completed. As an example, please see the current online treatment of the ammonoid family Acanthoceratidae: http://www.cretaceousatlas.org/taxonlist-cephalopoda-acanthoceratidae/.

2) Related to the problem described above in (1), Hendricks is also working with PI Myers (UNM) to create a standardized stratigraphic framework for the TCN project. This stratigraphic system is derived from a research dataset compiled earlier by PI Myers and version 1 has now been placed online: http://www.cretaceousatlas.org/stratigraphy-complete/.

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

#WIS localities georeferenced in this reporting period: 40

#WIS specimens have you databased (in EMu) in the reporting period: 7,060

#WIS specimen records do you have TOTAL in your database: 39,649

#WIS have you imaged in the reporting period? 7,240

#WIS specimens have you imaged TOTAL: 29,266

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

They have georeferenced 69 new WIS localities during this reporting period.
They have databased 247 new specimens during this reporting period.
They have a total of 2,816 Vertebrate and 1,328 Invertebrate WIS specimen records in our database.
They have produced 341 images of 223 Invertebrate WIS specimens during this reporting period.
They have produced 4 images of 1 Vertebrate WIS specimen during this reporting period.
They have produced a total of 345 images of WIS specimens.

Regarding the University of New Mexico (UNM) portion of the project, led by PI Cori Myers:

They have georeferenced 126 new WIS localities since the last reporting period. In an important development, they now have their Specify database set up and running. Regarding this, they have been transferring all of their pre-existing data accumulated during the course of this project, which was in the form of an excel spreadsheet, into their new Specify database.

Regarding the American Museum of Natural History portion of the project, led by PI Neil Landman and co-PI Ruth O'Leary:

#WIS localities georeferenced in the reporting period: 138 for a total of 1,259 new specimens georeferenced

#WIS specimen records total in their database: ~15,300

#WIS specimens imaged in the reporting period? 110

#WIS specimens imaged total: 210 images

Regarding the University of Texas portion of the project, led by PI Ann Molineux:

#WIS localities georeferenced in this reporting period:
• 281 additional localities are georeferenced.

#WIS specimens have you databased (in Specify) in the reporting period:
• 448 record lots were added

#WIS specimen records do you have TOTAL in your database:
• 27976 records

#WIS have you imaged in the reporting period?
• 774 attachments in Specify
• 312 imaged
• 3D scans- 34 specimens
#WIS specimens have you imaged TOTAL:
• 3D scans- of the total 40 specimens, 17 are now online with 7 fully published, at https://sketchfab.com/NPLcollections/models

Regarding the South Dakota School of Mines & Technology portion of the project, led by co-PI Laurie Anderson:

They have georeferenced 385 new WIS localities during this reporting period (70% of these were georeferenced using batch geocoding in ArcGIS Desktop).

They have databased 1666 new specimens from 268 new lots during this reporting period. Further, they now have a total of 8,347 WIS specimen records (lots) in their database. Of these, the break down is 6,455 lots in Invertebrate Paleontology, 10 lots in Paleobotany, 250 lots in Trace Fossils, and 1,722 lots in Vertebrate Paleontology.
Regarding images, they have about 100 images of WIS specimens.
They also had a data push to iDigBio in April 2017. This included more than just WIS specimens, but 8,952 records were sent. Currently these are 7,217 SDSM records, so this increases the total number by 1,735. Note that right now they are mostly hosting invertebrate paleontology and recent invertebrates through iDigBio. The vertebrate paleontology records they have are mostly from Federal land (Army Corp, Bureau of Rec, and USFS for most Cretaceous records) and they are still working on written permission to post with each agency.

Regarding the University of Colorado (UC) portion of the project led by PI Talia Karim:
Localities Georeferenced: We are nearing completion with the first pass of georeferencing and have completed another 300 localities. There will likely be more localities to georeference than we state in the proposal as we discovered that some of our historic collections were assigned generalized locality information, when in fact they have more precise information. For example, many collections were assigned to a locality called “near Belvedere, KS”, but when we started looking at the specimens the label information indicates that they are from multiple different localities in KS and even from different formations. We will start the process of going through this information and making new localities where needed next month.
New specimens databased: 587 new records were added to Specify
Total of 8,865 Cretaceous records in Specify.

Imaging: We have taken about 100 more specimen images with our iPad setup, and have started taking label images with this setup as well. We will be attaching both to Specify next month.

Share and Identify Best Practices and Standards (including Lessons Learned):
Regarding the Fort Hays State University (FHSU) portion of the project, led by PI Laura Wilson, they have been writing weekly reports to track progress. They recommend the use of LED 5000K (daylight) 60W/10W light bulbs over regular incandescent and halogen light bulbs. LED lightbulbs with a light temperature of 5000K provide a cool light that is easily white balanced by DSLR cameras and do not require additional white balance settings to achieve true color of the specimens.

Regarding the University of Texas portion of the project, led by PI Ann Molineux: they continue to update our wiki site to include technique improvements and will present at a workshop in AMMP's (Association for Materials & Methods in Paleontology) Annual Meeting April 19-22, 2017. Topic: 3D laser scanning and image processing.

Regarding the South Dakota School of Mines & Technology portion of the project, led by co-PI Laurie Anderson:in the last data push to iDigBio, they identified the need to separate comments meant for the public and those meant to help us in continuously quality contolling the database. They have repurposed two comments fields within the database to separate information for these two audiences. In addition, they developed a way to identify lithologic material (without a taxonomic determination) within our collections so that their nature is more apparent when they export it to iDigBio.

Regarding the University of Colorado (UC) portion of the project led by PI Talia Karim:
They have started using the iPad to take label images while doing inventory and are know using the label images to actually do the inventory. This was not part of their original workflow, but they have found that many of their specimens have additional locality and collection data that is only found on the labels. Additionally, the label images are helping them to sort out curation issues dealing with specimens originally cataloged as lots.

Identify Gaps in Digitization Areas and Technology:
Regarding the Fort Hays State University (FHSU) portion of the project, led by PI Laura Wilson:
They are awaiting our relational database. It is still in the development phase.
There are also no workflows for photographing large vertebrates. They are beginning to experiment with photographing vertebrates and will be reaching out to other institutions with vertebrate holdings to form a working group.

Share and Identify Opportunities to Enhance Training Efforts:
Regarding the University of Kansas portion of the project, led by PI Bruce S. Lieberman, we have successfully recruited a new Master's student, who is a member of an underrepresented group and will be starting in August.

Regarding the Paleontological Research Institution (PRI) portion of the project, led by PI Jonathan Hendricks, a student has been found to assist with processing images related to the Cretaceous

Atlas of Ancient Life this summer (June-August).

Share and Identify Collaborations with other TCNs, Institutions, and Organizations:
Regarding the University of Texas portion of the project, led by PI Ann Molineux, within the WIS-TCN they have sent their taxon list to Jon Hendricks for the Digital Atlas. Further, they continue their connection with the Specify group at KU. The deep time plug in is now ready for publishing on the next update of Specify 7.

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

Share and Identify Education and Outreach (E&O) Activities:
Regarding the University of Kansas portion of the project, co-PI Chris Beard made two public presentations to students, teachers, and some parents from Washburn Rural Middle School, which is located near Topeka, KS. A total of 125 middle school students were involved. This was in conjunction with a field trip the school made to the KU Natural History Museum. After the presentations, the students were responsible for developing their own "museum displays" related to paleontology and geology, and especially the fossils of Kansas. They also focused on Barnum Brown, as a famous paleontologist who was born in KS. You can see their home-made museum displays here:

https://docs.google.com/presentation/d/1mcSZJdyjaHLeF2XzaRr6weQDvOmacRab-FzZORB0_XQ/edit#slide=id.g12d2024a9a_0_457

Further, the teacher and students took it upon themselves to get the Kansas Department of Transportation (KDOT) to approve a new highway sign on the edge of Carbondale, KS (birthplace of Barnum Brown, the paleontologist who found many important fossils, including Cretaceous fossils such as T. rex) to advertise him and his role as an influential paleontologist. KDOT just approved this sign.

Regarding the Paleontological Research Institution (PRI) portion of the project, led by PI Jonathan Hendricks, work is underway to develop a "chapter" on cephalopods for the Digital Encyclopedia of Ancient Life (DEAL).

Regarding the Yale University portion of the project, led by PI Susan Butts, they are providing images to the Digital Encyclopedia of Ancient Life (DEAL), a broader outreach aspect of the project, see: http://www.digitalatlasofancientlife.org/learn/

Regarding the Fort Hays State University (FHSU) portion of the project, led by PI Laura Wilson: they have been active on social media including Twitter Posts:
- FossilFriday (retweets: 2, likes: 9)
-Posted 3 March 2017: When problem fossils don't behave, they go to timeout. #collectionslife #thestruggleisreal #FossilFriday @SternbergMuseum @FHSU_Paleo [picture of Darrah looking very cross at 2 tables full of trouble children (fossils)]
- MolluskMonday (total retweets: 8, likes: 15)
-Posted 20 Feb 2017: "Nice ammonite with nacre (mother of pearl) preserved at @SternbergMuseum. #MolluskMonday @FHSU_Paleo #ammonite @PaleoDigAtlas #Cretaceous [picture of large ammonite]
- MolluskMonday (total retweets: 0, likes: 3)

-Posted 6 March 2017: Spinaptycus - either an operculum or a mouth part of an #ammonite; found by Sternberg 1962 #MolluskMonday @SternbergMuseum @FHSU_Paleo [picture of FHSM IP-940]
- FossilFriday (retweets: 8, likes: 15)
-Posted 10 March 2017: One of @christinabyrd88's favorite @SternbergMuseum #fossils: Trinacromerum - short-necked polycotylid #plesiosaur. #FossilFriday [2 pictures of VP-12059 girdle bones (2 drawers)]
- MolluskMonday (total retweets: 1, likes: 4)
-Posted 13 March 2017: Color #preservation difference in Actinocamax sp. (#baculite-structure of #cephalopod) from the #Cretaceous. @SternbergMuseum #MolluskMonday
- FossilFriday (retweets: 21, likes: 41)
-Posted 17 March 2017: #Sciencing at @SternbergMuseum! @joshuarlively studying #Tylosaurus, #KansasStateFossil. #notadinosaur #FossilFriday @FHSU_Paleo [picture of Josh photographing FHSM VP-3]
- MolluskMonday (total retweets: 4, likes: 16)
-Posted 20 March 2017: #digitization is happening at the @SternbergMuseum starting with #invertebrates! #MolluskMonday @PaleoDigAtlas @iDigBio #CollectionsLife [oblique angle of computer screen with Lightroom open to the WIS photo collection]
- FossilFriday (retweets: 12, likes: 19)
-Posted 24 March 2017: For #FishFriday #FossilFriday, we have fossil or cast! Can you tell which is the fossil and which is the cast? @SternbergMuseum #Xiphactinus [picture of Xiphactinus fossil next to its cast]
- MolluskMonday (total retweets: 4, likes: 10)
-Posted 27 March 2017: #digitization of a #Cretaceous #ammonite (Plesiacanthoceras amphibulum) at the @SternbergMuseum for @PaleoDigAtlas. @iDigBio #MolluskMonday
- CollectionsLife (total retweets: 0, likes: 5)
-Posted 6 April 2017: Getting ready for the KAS Meeting Saturday! @christinabyrd88 topic: #CollectionsLife and #digitization. @FortHaysState @SternbergMuseum [picture of KAS banner from FHSM museum page and selfie of Christina working on her presentation in the collections room]
- CollectionsLife (total retweets: 0, likes: 5)
-Posted 13 April 2017: Data clean up! Collections Improvement! Currently: authorship look-up and fish organization! #CollectionsLife at the @SternbergMuseum. @GBIF [picture of Darrah and Christina in front of big iMac with IP catalog and GBIF website on the screen]
- FossilFriday (total retweets: 1, likes: 2)
-Posted 14 April 2017: Hangin' with a #holotype on #FossilFriday! Pteranodon sternbergi at the @SternbergMuseum. Planning #digitization of #Cretaceous #pterosaur. [selfie of Christina and Darrah with P. sternbergi]

They also conducted a Skype program with a high school teacher in Virginia relating the movie Sea Monsters to the fossils found from the Western Interior Seaway - specifically those housed at FHSM (Feb. 17). Included a virtual tour of the WIS exhibit space and Q&A session with the students. Christina Byrd (Paleo Collections Manager) presented on the recent advances at the FHSM on the digitization of the Cretaceous Western Interior Seaway specimens at the Kansas Academy of Science Meeting, 8 April 2017.

Regarding the University of New Mexico (UNM) portion of the project, led by PI Cori Myers: they now have a website, a Facebook account, and a Twitter account up and active and associated with UNM WIS paleontology.

Regarding the University of Texas (UT) portion of the project, led by PI Ann Molineux, staff and students continue to be part of several outreach activities within UT and community organizations.

Regarding the South Dakota School of Mines & Technology portion of the project, led by co-PI Laurie Anderson: They added the Cretaceous Atlas of Ancient Life as a link on the Virtual Exhibits page of the Museum of Geology Webpage (http://www.sdsmt.edu/Academics/Museum-of-Geology/Online-Exhibits/). They also participated in a Youth in Science/Women in Science Conference on March 7, 2017. Museum staff (Kelsie Abrams), curators (Christina Belanger), and PhD student (Brooke Long) presented activities for Middle School Girls from the region using WIS materials. In addition, Assistant Director Danielle Serratos hosted a Boy Scout Event at the Museum on March 4, 2017 with WIS specimens used as part of the activities. (Note that they also have a WIS grant through IMLS and credit some of these activities to both grants.)

Other Progress (that doesn't fit into the above categories):
Regarding the Yale University (YPM) portion of the project, led by PI Susan Butts, Maya Juman, student digitizer, led public tours of the YPM Invertebrate Paleontology Division collections, emphasizing Cretaceous World collections and research. Also, Divisional staff Susan Butts and Christina Lutz, led public tours of the YPM Invertebrate Paleontology Division collections, emphasizing Cretaceous World collections and research.

Regarding the Fort Hays State University (FHSU) portion of the project, led by PI Laura Wilson: they have begun sharing their invertebrate WIS specimen photos with the Cretaceous Atlas (~80 photos). Further, Laura Wilson attended the iDigBio Digital Data in Paleontological Research Workshop in Berkeley (Mar 27-28).

Regarding the University of Texas (UT) portion of the project, led by PI Ann Molineux, their programmer Tomislav Urban would like to add Western Interior Seaway (inland seas) to the plate reconstructions and will be seeking suitable sources for these.

Regarding the South Dakota School of Mines & Technology portion of the project, led by co-PI's Laurie Anderson and Maribeth Price, GIS Dataset Development. Undergraduate Josiah Windish is completing an independent study project to digitize WIS shorelines from the Blakey map collection, so that they can be compared with localities and specimens, as well as being available for spatial analysis. Project completion is anticipated in May, 2017. We are continuing to have students as part of a class digitize the available 1:62,000 scale maps of the Pierre Shale member formations in South Dakota. To date, 22 out of 39 quadrangles have been digitized. This will allow for analyses that consider the quality of the fossil record for this time period, by comparing available outcrop area with reconstructed species ranges.

Taxon and Stratigaphy Lists. They are developing a list of taxa and stratigraphic names to submit to Jonathan Hendricks at PRI to help build a TCN wide standard.

Attachment 1

Attachment 2

Source URL: https://www.idigbio.org/node/564/submission/972

Submission #972.5

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by BruceL
Monday, April 15, 2017 - 12:52

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 278,996 specimens databased associated with this project. Further, we now have a total of 233,270 databased specimens that are also georeferenced associated with this project. In addition, a otal of 9,472 localities have been georeferenced associated with this project. We have also completed databasing our Poriferan holdings. Other major taxonomic groups have been completely databased and georeferenced.

Regarding the portion of the project at the Paleontological Research Institution (PRI) led by PI Jon Hendricks:

Since the last update, the following activities have been completed at PRI:

1. Nearly all families of gastropods and bivalves on the Neogene Atlas now have detailed family-level descriptions. Examples:
   a. Turritellidae: http://neogeneatlas.org/families/turritellidae/
   b. Architectonicidae: http://neogeneatlas.org/families/architectonicidae/
   c. Lucinidae: http://neogeneatlas.org/families/lucinidae/
   d. Pectinidae: http://neogeneatlas.org/families/pectinidae/

2. Over 160 photographs have recently been taken of Neogene fossils; work to process these images and add them to the Neogene Atlas will begin next week (work will be completed by a newly hired Digitization Assistant). In addition, nearly 30 new images for the Neogene Atlas have recently been produced and will soon go online.

3. Over 400 lots of Plio-Pleistocene specimens from the Trisha Kelley collection are in the process of being digitized; when all steps are finished, these records will be provided to iDigBio.

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):
Regarding the University of Kansas portion of the project, post-doc Luke Strotz is currently conducting analyses that use specimen data collected during the course of this project to study the association between ecology, biogeography, and macroevolution in deep time.

We have also filed a no cost extension request. If approved this will be our final one.

Attachment 1

Attachment 2

Submission #976

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by akuhn
Monday, April 24, 2017 - 11:43
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:
• BRU becomes first complete dataset published to iDigBio (22Feb2017)
• Jewell and Arline Moss Settle Herbarium at SUNY Oneonta (SUCO) collection added to MyCoPortal (15Mar2017)
• Completed digitization of University of Nebraska's (NEB) collection for Stage 2 records

Share and Identify Best Practices and Standards (including Lessons Learned):
• Resolved issue of numbering for Ravenel's Fungi Caroliniani Exsiccati

Identify Gaps in Digitization Areas and Technology:
Nothing to report.

Share and Identify Opportunities to Enhance Training Efforts:
• Held Webinar to train participants on georeferencing (31Mar2017)

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:
Nothing to report.

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

Attachment 1
%Georeferenced.pdf

Attachment 2

Herbarium Code	Herbarium	% of Collection Georeferenced
UACCC	University of Alabama	44%
ARIZ	Univ. Arizona	0%
FPF	Rocky Mountain Research Station	98%
UARK	University of Arkansas - Fayetteville	100%
UC	Univ. California Berkeley	7%
FLAS	University of Florida	34%
GAM	University of Georgia - Athens	22%
F	Field Museum	32%
ILL	Illinois Natural History Survey	79%
ILLS	Illinois Natural History Survey	98%
PUR	Purdue University	95%
PUL	Purdue University	59%
ISC	Iowa State University	0.6%
KANU	University of Kansas	33%
LSUM	Louisiana State Univ	93%
BPI	U.S. National Fungus Collections	0%
FH	Farlow Herbarium	1%
MICH	University of Michigan	9%
MSC	Michigan State University	0%
MIN	University of Minnesota	27%
NEB	University of Nebraska	1%
CHRB	Rutgers University	0%
CUP	Cornell University	0.04%
NY	New York Botanical Garden	25%
SYRF	SUNY ESF	0.05%
NCU	Univ. North Carolina	81%
MU	Miami University	37%
OSC	Oregon State Univ.	40%
PH	Academy of Natural Sciences of Drexel University	8%
CLEMS	Clemson University	0%
TENN	University of Tennessee	100%
URV	University of Richmond	0%
WSP	Washington State University	85%
WIS	University of Wisconsin - Madison	35%
RMS	University of Wyoming	6%
BRU	Brown University Herbarium	99%
IND	Indiana University	1%
MISS	University of Mississippi	100%

Submission #977

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by EPICC
Tuesday, April 25, 2017 - 12:43
128.32.154.17

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@berkeley.edu

Progress in Digitization Efforts:
As of 4/1/2017, the TCN has fully curated and computer cataloged 665,378 specimens (42% of goal) and made 35,766 of these specimens available in the iDigBio portal. The TCN has photographed 21,460 specimens (26% of goal) and georeferenced 13,575 localities (38% of goal).

Georeferencing: UAM finished georeferencing all 887 of their localities. The Burke Museum has finished georeferencing 90% of their localities. Transcription of ledgers and other source material continues in order to allow georeferencing of localities.

Share and Identify Best Practices and Standards (including Lessons Learned):
PI Finnegan completed revisions to the R script, which has been sent to TCN partners for their use in standardizing taxonomic data based on the LACMIP taxonomic dictionary.

Identify Gaps in Digitization Areas and Technology:
CAS and LACM continue to clean and standardize data in preparation for migration to new collections databases. The CAS mySQL database is fully functional and receiving uploads.

At UCMP, our photo station computer has a spotty wireless internet connection (no ethernet available in that room), which makes uploading photos to our backup drive and bulk uploads to CalPhotos more complex and time consuming.

Share and Identify Opportunities to Enhance Training Efforts:
Clites gave a webinar to the paleo digitization community on DarwinCore fields for georeferencing. UCMP hosted an iDigBio workshop on Digital Data in Paleontological Research in March 2017 with 60+ attendees. The workshop was quite successful and stimulated a lot of discussions relevant to our EPICC project. Several EPICC participants participated in the workshop and PI Holroyd and Clites were on the planning committee.

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

EPICC submitted several questions to the Darwin Core Question and Answer group and those answers helped guide our efforts to standardize our TCN data. We had discussions with paleontological colleagues at the March 2017 workshop related to EPICC including about ancillary data, building concordances and other topics. Clites gave a presentation on the EPICC project and it was also mentioned during Lindsey Walker's presentation on LACM's inventory efforts. Cretaceous World TCN is using our specimen labeling guide for training and it will also be shared with the MyFOSSIL project. LACM continues to collaborate with the Southern California Paleontological Society.

Share and Identify Opportunities and Strategies for Sustainability:
LACM has volunteers from avocational groups with either taxonomic expertise or interest in participating in pre digitization curation. Reach out to community college and local universities for unpaid student interns. Look for opportunities to involve STEM teachers (often participating in summer training programs) to assist in digitization and outreach activities.

Share and Identify Education and Outreach (E&O) Activities:
Students continue to work in the collections at multiple museums, cataloging specimens, georeferencing localities and helping with other tasks.

Held advisory board meeting related to the Virtual Field Experiences Feb. 25-26. Feedback received from board members was quite helpful and modules were revised with those comments in mind. We are now awaiting final approval of the modules. Feb. 27-28 PI White, Duggan-Haas and Ross did fieldwork in the Santa Cruz, CA area for the second set of VFE modules on the Purisima Formation. March 1 we held a meeting with UCMP staff to guide development of this second round of modules.

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

Attachment 1

Attachment 2

Submission #978

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by tkarim
Tuesday, April 25, 2017 - 18:17
128.138.65.240

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:
As we near the end of year four of our TCN we continue to add new specimen records to our databases. Across the TCN we databased more than 3,525 specimens and acquired a total of 5,495 images during the reporting period.

The VMNH reports that they are starting to run out of prepared fossils. Until now, the fossils had been prescreened and trimmed down to cut out areas without insects. Their digitization progress has slowed as they work through unprepared field collections. They have also received some images from AMNH, who have many of their fossil insect specimens on loan. These images have now been added to the VMNH database.

Share and Identify Best Practices and Standards (including Lessons Learned):
The UCMP-PEN (BFIP Project) continues to discover novel ways in which to rehouse fossil insect specimens as part of their digitization efforts. They are rehousing many of their smaller Rancho La Brea and McKittrick specimens from small 1.5 x 3 inch cardboard trays and 2 dram glass vials to 1.5-2.0 ml plastic PCR tubes with snap caps or plastic friction lid containers for larger specimens, with an ethafoam lining in the bottom of the containers, and an ethafoam plug in the tubes to eliminate as much rattlespace as possible. The older glass vials the specimens were previously housed in have very snug fitting plastic caps and they were breaking in students hands while trying to remove the caps. The new storage method has the added benefit of eliminating wasted drawer space.

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:

T. Karim, D. Zelagin (CU-Boulder), and D. Erwin (UCMP) attended the iDigBio Paleo Digitization workshop held at the UCMP in March 2017. Karim was a co-organizer of the meeting and presented a lightening talk on iDigPaleo. Erwin presented a talk on the Fossil Insect Collaborative TCN.

Harvard has taken and shared fossil insect images with Wesley Colombo, a PhD student from the Universidade Federal do Espírito Santo (Brazil) working on fossil Epyrinae (Hymenoptera: Bethylidae). They also hosted a visit by Gwen Antell (Feb 27th - March 3rd), who was awarded an Ernst Mayr travel grant from the MCZ to study orthopterans and odonates from Florissant.

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

Share and Identify Education and Outreach (E&O) Activities:
iDigPaleo will be tested on the floor of the Peabody (in exhibits) starting April 22nd with EVOLUTIONS high school interns performing the study. We have designed an activity to engage visitors, show them the database, gauge user experience from observation, and administer a short survey about their interest in iDigPaleo.

The VMNH continues to do excellent outreach via collections tours and museum sponsored events. These include six private tours through the collections lab, highlighting Solite Insects, a field trip to Rt. 220 for fossil insect collecting, two Darwin Day events, and participation in the Fossil Fair in Gastonia at the Scheile Museum.

Harvard hosted a tour to the fossil insect digitization project workspace and fossil insect collection to a group of about 30 entomology students from the University of Massachusetts Boston tutored by Professors Yue See Lee and Rob Stevenson on March 29th.

The BFIP project continues to engage undergraduate research apprentices (three new ones this Spring 2017 semester), which provides them an opportunity to gain hands on experience working with the natural history collections in the UCMP. We are currently developing a fossil insect module to incorporate into our UCMP docent tours given to K-16 school groups visiting the museum and online fossil insect content for the Understanding Global Change website. Aspects of the project will also be presented this year to our behind the scenes CalDay visitors (4/22/17). D. Erwin will be presenting a poster entitled, "Enhancing public access to UCMP's fossil insect collections through digitization and social media," at the annual SPNCH meeting. Coauthors include the project's volunteer and student participants.

Other Progress (that doesn't fit into the above categories):
S. Butts (YPM) has setup an Instagram account for our TCN and a high school student from their EVOLUTIONS program will do posts through the end of June 2017.

The BFIP project has been making regular project-related FossilFriday posts to Twitter (weDIGbugs2, @bfi_PEN), which get cross-posted to the Fossil Insect TCN's twitter account and on the PI and UCMP's Facebook pages. We have 198 followers on Twitter. We are tapping into both the citizen science and professional entomological community on social media and receiving taxonomic identifications on fossil insects that we post. Our Rancho La Brea and McKittrick tarpit insect data and images are currently being utilized by Anna Holden (PhD, AMNH) to facilitate her research on reconstructing the insect community and using these data to infer the paleoclimate of southern California at the end of the last Ice Age. We are now in discussions related to identify those UCMP tarpit specimens that can be sacrificed for Carbon-14 dating using a new protocol developed by John Southon at the Keck-Carbon Cycle AMS facility, University of California, Irvine (Holden and Southon, 2016). Our project website bfip@berkeley.edu is now live and features blogs by our BFIP undergraduate research apprentices writing about their experiences. Asma Ahmed's blog about her work on the UCMP amber collection is slated for this month.

The BFIP project has begun entering the digitized amber archives (pdfs of amber collection correspondence, manuscripts, maps, photos, etc.) into our Docubase repository service for network-accessible distributed document resources. These will be accessible to all qualified researchers, educators, and interested public.

Attachment 1

Attachment 2

Submission #979

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by neilscobb
Wednesday, April 26, 2017 - 09:35
134.114.107.130

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 1
LepNet_SCAN_Apr_2017.docx

Attachment 2

Submission #980

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by neilscobb
Wednesday, April 26, 2017 - 09:36
134.114.107.130

TCN Name:
Lepidoptera of North America Network: Documenting Diversity in the Largest Clade of Herbivores

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 1
LepNet_SCAN_Apr_2017.docx

Attachment 2

Lepidoptera of North America Network & Symbiota Collections of Arthropods Network (SCAN)

May 9, 2017
Neil Cobb

Progress in Digitization Efforts:

Beginning with this report, I will combine LepNet and SCAN reports because there is so much cross-over activity between the two networks. Both networks have a number of museums involved in both SCAN and LepNet, including collections that have received funding from both TCNs, collections that are unfunded for one TCN and funded by the other, and some collections that are providing data to both and are unfunded by the ADBC program. Both TCNs share the same database http://symbiota4.acis.ufl.edu/scan/portal/index.php .

The SCAN network started in 2012 and the TCN funding has ended, but SCAN continues to support PEN projects. The LepNet grant was initiated on July 1, 2016 and there are currently 26 ADBC funded museums and one non-funded museum (Oklahoma State University). Twenty-six museums have established a collection on the LepNet Portal and have served data. Twenty museums are serving DwC archives to iDigBio and six museums are still establishing connections with the LepNet portal.

Table 1. Records in SCAN/LepNet database, "all data" reflects all arthropod taxa, "Non-Lep" includes all non-Lepidoptera arthropod data, and Lepidoptera includes only Lepidoptera taxa.

	All data	Non-Lep	Lep
Specimen Records	12,530,874	11,691,906	838,968
# Georeferenced	9,779,400	9,172,916	606,484
# Imaged	756,965	560,874	196,091
# Ided to species	6,742,476	5,961,017	781,459
# families	4,193	2,154	2,039
# genera	25,490	1,847	23,643
# species	149,565	91,527	58,038

Ided = identified

Table 1 shows the distribution of records for all data served on the portal.

LepNet -To date we have produced 396,508 records from LepNet TCN collections (Table 2). We also serve an additional 59,050 from unfunded collaborators and 383,095 records from collections that serve data to iDigBio but were also willing to share their data on the LepNet portal.

We have published an overview of the LepNet project (Seltmann et al 2017), and we are planning for a short communication publication on developing standards for images used in research.

Symbiota Collections of Arthropods Network (SCAN) - Table 3 shows the distribution of records associated with the SCAN, we have surpassed our overall TCN/PEN goals for the network and have been very successful in supporting data mobilization for unfunded museums and cooperation by larger collections that have allowed there data to be used to help mobilize

data from other museums. Table 4 shows data for the five major taxa we targeted in SCAN. All five groups have enough data to produce scores of papers.

Table 2. Records from three categories of data providers to LepNet network.

	LepNet TCN Total	Unfunded Collaborators	Added Value Collections	TOTAL
# Specimen Records	396,508	59,050	383,095	838,653
# Georeferenced	235,887	17,269	353,040	606,196
# Imaged	34,443	9,996	151,652	196,091
# Ided to species	365,754	48,640	366,784	781,178

Table 3. Records from three categories of data providers to SCAN Network.

	SCAN TCN-PEN Total	Unfunded Collaborators	Added Value Collections	TOTAL
# Specimen Records	2,350,776	1,052,208	8,166,752	11,569,736
# Georeferenced	1,842,485	520,322	6,754,074	9,116,881
# Imaged	239,412	129,296	192,141	560,849
# Ided to species	1,119,564	439,495	4,306,682	5,865,741

Seltmann, K.C. N.S. Cobb, L.F. Gall, C.R. Bartlett, A. Basham, I. Betancourt, C. Bills, B. Brandt, R.L. Brown, C. Bundy, M.S. Caterino, C. Chapman, A. Cognato, J. Colby, S. P. Cook, K.M. Daly, L. Dyer, N.M. Franz, J.K. Gelhaus, C.C. Grinter, C.E. Harp, R.L. Hawkins, S.L. Heydon, G.M. Hill, S. Huber, N. Johnson, A.Y. Kawahara, L.S. Kimsey, B.C. Kondratieff, F. Krell, L. Leblanc, S. Lee, C.J. Marshall, L.M. McCabe, J.V. McHugh, K.L. Menard, P.A. Opler, N. Palffy-Muhoray, N. Pardikes, M.A. Peterson, NE. Pierce, A. Poremski, D.S. Sikes, J.D. Weintraub, D. Wikle, J.M. Zaspel and G. Zolnerowich. (**2017**) LepNet: The Lepidoptera of North America Network. *Zootaxa*, *4247*(1), pp.73-77.

Share and Identify Opportunities to Enhance Training Efforts: We will develop resources on the WordPress site http://www.lep-net.org/ . We will expand this to incorporate material from the SCAN drupal project website.

Table 4. Number of records for the five focal taxa groups targeted by SCAN.

	# Specimen Records	# Georeferenced	# Ided to species	# Georeferenced and Ided to Species
Formicidae	877,178	84%	52%	43%
Carabidae	532,715	79%	63%	51%
Acrididae	150,420	82%	92%	76%
Tenebrionidae	149,472	84%	61%	52%
Spiders	190,381	77%	83%	60%
Total/Average	**1,900,166**	**81%**	**70%**	**56%**

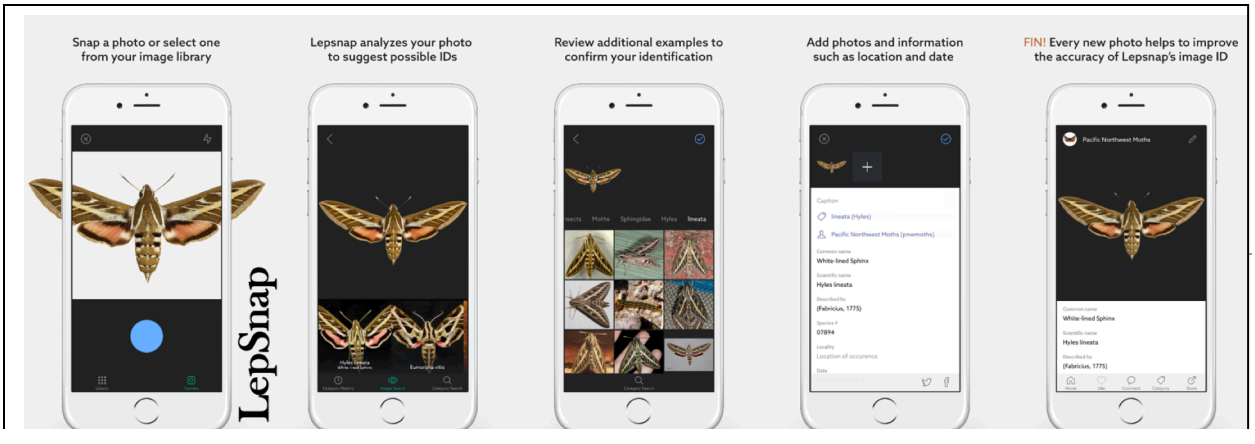
Share and Identify Best Practices and Standards (including Lessons Learned):
We are identifying best practices on a weekly basis and sharing those with respective people within LepNet http://www.lep-net.org/ .

Identify Gaps in Digitization Areas and Technology: We need to harvest additional data (i.e. beyond SCAN/LepNet understand the biogeography of Lepidoptera taxa. We are meeting this need by incorporating additional collections into the LepNet database, including observational records from iNaturalist.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations:
We are primarily working with other Symbiota TCNs and other Symbiota portals. We are also generally collaborating with a variety of individuals, projects and organizations to extend the ability to mobilize biodiversity data and

Share and Identify Opportunities and Strategies for Sustainability: Two museums for SCAN have sustainability plans
We have not made sustainability plans to date.

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 and LepNet users. We are making significant progress in developing our LepSnap app.



Our collaborators (FieldGuide & Visepedia) are developing this app. This is initially targeting Lepidoptera but we fully expect it to extend to other arthropod groups within the next two years.

Submission #981

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by cskema
Wednesday, April 26, 2017 - 11:12
165.123.74.113

TCN Name:
The Mid-Atlantic Megalopolis: Achieving a greater scientific understanding of our urban world

Person completing the report:
cskema@upenn.edu

Progress in Digitization Efforts:
See attached pdf.

Share and Identify Best Practices and Standards (including Lessons Learned):
See attached pdf.

Identify Gaps in Digitization Areas and Technology:
See attached pdf.

Share and Identify Opportunities to Enhance Training Efforts:
See attached pdf.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations:
See attached pdf.

Share and Identify Opportunities and Strategies for Sustainability:
See attached pdf.

Share and Identify Education and Outreach (E&O) Activities:
See attached pdf.

Other Progress (that doesn't fit into the above categories):
See attached pdf.

Attachment 1
2017_04_MAM_Bi-monthly_Progress_Summary.pdf

Attachment 2

Mid-Atlantic Megalopolis TCN

Bi-Monthly Progress Report

March – April 2017

Progress in Digitization Efforts: The current numbers for progress of digitization efforts by specimen category are shown in Table 1. BALT and CHRB are waiting for a light box to use with their imaging rig (see details under gaps in technology heading). Digitization work at SIM (Staten Island Museum) will not begin until imaging work at MCA is complete, probably in early 2018; digitization work at TAWES will likely begin with an imaging blitz in Summer or Fall 2017.

Table 1. Digitization of specimens by stage of completion and herbarium for MAM TCN.

	HERBARIUM									
Specimen Stage	BALT	CHRB	DOV	HUDC	MARY	MCA	MOAR	NY	PH	**Totals**
# specimens imaged (no stage, not in Symbiota yet)	0	1,878	3,175	70	0	12,946	0	0	11,884	**29,953**
# specimens imaged, and uploaded to Symbiota along with skeletal data (Unprocessed Stage)	0	79[#]	96	271	0	11,281	1,964	0	31,751	**45,442**
# specimens as above + completely transcribed and transcription reviewed (Stage 1)	0	0	0	9	0	0	4,059	72,420*	0	**76,488**
# specimens as above + georeferenced (Stage 2)	0	0	0	0	0	0	273	40,586*	0	**40,859**
# specimens that need special attention, e.g. go back to sheet, etc. (Stage 3)	0	0	0	0	0	0	20	0	0	**20**
# specimens as above + closed as complete (Closed Stage)	0	0	0	0	0	0	0	0	0	**0**

[#]The number for this category for CHRB went down due to removal of some low-quality images that will be reimaged. *Not uploaded to Symbiota yet as NY is using in-house workflow/database until later steps in process.

Share and Identify Best Practices and Standards: At NY, a workflow is followed in which images are processed using OCR after imaging, and the rendered label text is placed in a "Notes" field. Label elements unique to each digitization project are then searched for in that field to select sets of relevant specimens. The Rapid Data Entry procedure in the NY database is then used to transcribe data, with which transcription rates of 50-75 records per hour are achieved.

Identify Gaps in Digitization Areas and Technology: MAM is working with a Philadelphia firm, Oat Foundry, to design and build a light box to fill the void left by the closure of OR Tech. These boxes will be used by the institutions in the MAM Project that are still missing a light box: BALT, CHRB, and MOAR. Also, the MOAR team of MAM has been working to identify the source of the soft focus issues a number of collaborators have been facing with their imaging rig set-up.

Share and Identify Opportunities to Enhance Training Efforts: At CHRB, a training certificate was developed with 1-2 hour, topic-centered modules for the undergraduates that are part of the semester-long “Herbarium Army.” These are students that work in the herbarium 90-200 hours a semester for credit, pay, or as volunteers. Training module development continues at CHRB, and includes such topics as photography and online data entry.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations: Nothing to report.

Share and Identify Opportunities and Strategies for Sustainability: Financial sustainability has been increased through the advertisement for two federal work-study students for Fall 2017 in the CHRB herbarium. At NY, work is being done to link the MAM project to the Ecoflora of New York City project, particularly to build a constituency of volunteers ("Urban Naturalists") to help with the digitization/transcription of New York City plants (especially from the Brooklyn herbarium) and conduct field observations.

Share and Identify Education and Outreach Activities: MAM held its second project workshop, hosted by the New York Botanical Garden and led by Ed Gilbert, on 25-26 February 2017. This workshop provided training for MAM collaborators and public participants on how to use the floristics tools in Symbiota, with a long-term goal of building a Mid-Atlantic virtual flora in the MAM Portal. The workshop was attended by 25 participants, 14 from the MAM Project and 11 attendees from the general public, including amateur botanists, natural history enthusiasts, and staff from other regional parks, institutions and NGOs. Thanks to Ed Gilbert, Barbara Theirs, and Anne Barber for organizing, instructing, and coordinating this productive workshop!

CHRB's Herbarium Director Dr. Lena Struwe gave an invited talk on the inclusion and engagement of undergraduates in herbarium work at Rutgers in a special workshop on herbarium and education arranged by the Society of Herbarium Curators, at the ASB 2017 meeting. [Struwe, L. & M. King. 2017. How to create opportunities in research, education, and outreach through the formation of an undergraduate Herbarium Army. Association of Southeastern Biologists Meeting, Montgomery, AL, March 29-31 - April 1, 2017.]

Co-PI Burke and her student presented on the HUDC MAM project at Howard University Research Week. [Durand, A. and J.M. Burke. 2017. The digitization of mid-Atlantic specimens in the Howard University herbarium. HU Research week 2017. Poster.]

Other Progress: CHRB's Collection Manager Megan R. King, was named the Student Employee of the year for Rutgers University, and for the whole state of New Jersey solely based on her job performance in the herbarium during the last year.

Submission #982

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by psweney
Wednesday, April 26, 2017 - 12:35
130.132.173.78

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 808,378 records and 803,064 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. Collaborating with Notes from Nature to reproductive phenology using citizen scientists.

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 1

Attachment 2

Submission #983

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by mwdenslow
Wednesday, April 26, 2017 - 13:55
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 77 collections serving data through the SERNEC portal. There are currently 2,791,988 specimens records and 177,652 (6%) of those records are georeferenced. There are currently 2,188,540 imaged specimen images available. There are currently 31 collections publishing to iDigBio.

Arkansas: UARK affixed barcode labels on 1,816 specimens; UARK imaged and entered skeletal data in the SERNEC portal for 6,179 specimens.

Georgia: GA entered skeletal data (species name, state, county) for 6,915 specimens into Specify (8,675 to date). COLG delivered 1,500 specimens delivered to VSC for imaging by VSC. The total imaged to date is 4,910. GAS imaged 1,655 specimens (17,397 imaged to date). So far, 1,772 images have been associated with their existing Specify record. 3,120 images and data have been uploaded to the SERNEC portal.

Valdosta State University has approved hiring a GSW student assistant selected by GSW Curator Stephanie Harvey. This student is currently completing documents necessary for her employment.

Kentucky: EKY imaged 6,097 specimens. MUR has prepared 36,000 specimens to upload to the image servers.

Louisiana: NLU transferred 400,000 image links from CyberFlora Louisiana into the SERNEC portal. They are currently experimenting with uploading digitized label information from a few thousand records. NLU is continuing to use OCR and student workers to digitize labels, convert results to a spreadsheet format for subsequent upload to the SERNEC portal. SELU has processed 15,000 specimens through Notes from Nature. The data still needs to be processed and uploaded to SERNEC portal.

Mississippi: Images are complete for all known accessioned specimens in MSU and IBE collections. The SERNEC portal contains 65,509 images from IBE and 32,813 from MSU. The remaining IBE records still require upload to the portal. For IBE 13,258 records have skeletal data in the portal and 20,157 records are linked to images from the MSU collection.

South Carolina: We are preparing to move our mobile unit in May to Francis Marion University (FMUH) and will schedule training dates there for the curator and local student workers. We have purchased additional barcode scanners to send to FMUH ahead of the unit to allow curator and volunteers there to pre-label specimens and enter skeletal data ahead of actual digitization of specimens. It is hoped this will increase the image processing rate. Currently, CLEMS has digitized and linked over 25,000 specimens.

Tennessee: In Tennessee we have contracts in place with most universities (MTSU, Tennessee Tech., Rhodes College, BRIT, ETSU, and UT-Martin) and only need to establish a subcontract with the University of the South, although drafts have been accepted. Thus far, we have had 54 students from four universities (UTC, MTSU, Rhodes College, and Tennessee Tech.) directly involved with the digitization effort - these are either paid off of the grant, work study, or independent study working for academic credit. We have also had two paid interns and numerous volunteers at BRIT involved in the effort. To date we have barcoded about 500,000 specimens, captured about 475,000 specimen images, and skeletally databased about 225,000 specimens.

West Virginia: Marshall University (MUHW) continues to work with five Federal Work Study students who are helping to digitize the collection. We hired one of those students for additional hours during spring semester. We finished imaging our existing vascular plant collection (41,352 sheets). We have transcribed approximately 7,000 sheets to some level (basic geography to complete transcription) using several volunteers. WVU imaged 4,107 (total 45,712 imaged to date of 46,827 barcoded).

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).

Kentucky: EKY has stopped stamping sheets with an accession number in addition to applying a barcode. This will save processing time. Barcodes will now serve as our new accession number.

Louisiana: Working on OCR of label images to extract data, move to a spreadsheet to isolate the fields, then eventually upload to SERNEC portal.

South Carolina: We have purchased additional barcode scanners to distribute to herbaria in advance as part of a plan to increase specimen processing speeds.

Identify Gaps in Digitization Areas and Technology:
All SERNEC:
The eBox company is currently out of business and suppliers for replacement light bulbs are very limited. We are still working on alternatives to deal with this issue.

Share and Identify Opportunities to Enhance Training Efforts:
All SERNEC:
SERNEC organized an all-day workship that was presented at the Association of Southeast Biologist meeting in Montgomery, Alabama in March/April. The SERNEC all-day workshop had two goals. One goal was to provide a training session for students and faculty that want an overview of herbarium curation, examining current best practices from plant collecting to digitization and georeferencing. The workshop was appropriate for beginners or those seeking a primer on recent

changes in best practices. A second goal was to provide an update on current opportunities to involve students and volunteers in transcription and georeferencing projects. This was of particular interest to those that want to add museum informatics projects to their classrooms or to engage native plant, conservation and gardening groups in our regional herbarium efforts. Students, faculty and professional biologists were encouraged to attend.

Mississippi: This semester, Lisa Wallace had students in plant taxonomy participating in label transcription of the MSU collection. This has resulted in skeletal data fro ca. 3700 records from the MSU collection.

West Virginia: WVA has applied for a summer work-study student (75 available for WVU).

Share and Identify Collaborations with other TCNs, Institutions, and Organizations:
All SERNEC:
See workshop above.

West Virginia: Marshall University (MUHW) began working with Burgundy Center for Wildlife Education in February 2016. Their volunteer curator began transcribing Marshall specimens while readying their collection for barcoding. In April 2017, the curator drove their 464-sheet collection to Marshall and was trained by the curator and monitored imaging for a 2-day period, resulting in a completely imaged collection for a previously unknown (to SERNEC) facility.
At WVU, PJ Harmon (WV Department of Natural Resource) started work to prepare already transcribed WV label data FoxPro files for linking with SERNEC images.

Share and Identify Opportunities and Strategies for Sustainability:
All SERNEC:
Nothing to report.

Share and Identify Education and Outreach (E&O) Activities:
All SERNEC: Kari Harris and Jill Czerwonky presented at the National Science Teachers Association (NSTA) National Conference in Los Angeles, California (March 30-April 2, 2017). Details of the presentations follow below:
Workshop session: Communicating Biodiversity Science to High School Students 9:30-10:30am Sunday, April 2 Short description: Engage in a specimen-based lesson plan integrating state standards and NGSS. Developed for Southeast Regional Network of Expertise and Collections (SERNEC), this lesson uses Notes from Nature and natural history collections to meet state biology standards. Bring your tablet/laptop.
Presentors - Kari Harris and Jill Czerwonky
Format: Hands-On Workshop
iDigBio session: Bringing Biodiversity into the Classroom: Natural History Collections-Based Resources for High School Educators and Learners 11am-12pm Sunday, April 2
Short description: We will present short demonstrations of curricula and other STEM resources from six natural historycollections-based projects or institutions from around the country.
Presenter(s): Molly Phillips (Florida Museum of Natural History: Gainesville, FL), Tracy Barbaro (Encyclopedia of Life: Cambridge, MA), Elizabeth Ellwood (Florida State University: Tallahassee, FL), Andrea Miller (Morton Arboretum: Lisle, IL), Anne Basham (Arizona State University: Tempe, AZ), Kari Harris (Arkansas State University: Jonesboro, AR)
Format: Presentation

Kentucky: At EKY, Brad Ruhfel presented a talk in the herbarium digitization symposium organized by Wendy Zomlefer and Richard Carter at ASB 2017 in Montgomery, AL.

Louisiana: ULM received an internal innovation grant to develop educational modules connecting collection information with courses. We will be working on a first try this summer in association with faculty from Communications. The idea is also to develop video presentations for display in the Museum of Natural History.

Mississippi: Lisa Wallace participated in “Science Night at the Museum” on Mississippi State University campus on Feb. 15. The herbarium display featured specimens, information about the herbarium tools of the trade, and activities involving pressed plants (suncatchers and bookmarks) for children. Approximately 450 visitors attended the multi-museum event.

South Carolina: USCH had a student volunteer work in the Herbarium and learn the digitization process. Also made faculty aware of digitized resources available through iDigBio.

Tennessee: The Tennessee curators have created a FaceBook for the Tennessee Herbarium Consortium (THC) and we put pictures and information items about our digitization effort on that site. We are working to formalize this consortium with a mission statement.

West Virginia: At Marshall University our year-long collaboration with Burgundy Center for Wildlife Education (WV) has resulted in having their 464-specimen collection completely photographed at Marshall University, and their volunteer curator trained in our digitization protocol. We will aid Burgundy in uploading their photographs and associated data once they have a herbarium acronym assigned from IH and an iPlant and Symbiota account.

Other Progress (that doesn’t fit into the above categories):
All SERNEC:
Nothing to report.

Kentucky: EKY - Brad Ruhfel and Master’s student Thomas McFadden attended the Wendy Zomlefer and Richard Carter herbarium digitization symposium at ASB 2017 in Montgomery, AL. Brad Ruhfel presented a talk in that symposium.

Tennessee: Joey Shaw and Ashley Morris attended the Wendy Zomlefer and Richard Carter herbarium digitization symposium at ASB 2017 in Montgomery, AL.

West Virginia: Marshall University’s Emily Gillespie participated in Wendy Zomlefer and Richard Carter’s herbarium digitization symposium at ASB 2017 in Montgomery, AL. The presentation was a wrap-up of what we have learned about including botany-naive undergraduate students in a digitization effort.

Attachment 1

Attachment 2

Submission #984

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by kmcameron
Wednesday, April 26, 2017 - 17:22
128.104.98.73

TCN Name:
Great Lakes Invasives: Documenting the Occurrence through Space and Time of Aquatic Non-indigenous Fish, Mollusks, Algae, and Plants Threatening North America's Great Lakes

Person completing the report:
kmcameron@wisc.edu

Progress in Digitization Efforts:
See attached spreadsheet

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:
Nothing new 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 1
GLI_Stats_04_25_2017.xlsx

Attachment 2

Collection	Specimens	Georeferenced	Imaged	Notes
Albion College	1224	16	1215	MI Small Collection
Butler University, Friesner Herbarium	12972	7	9142	
Calvin College	731	0	696	MI Small Collection
Central Michigan University	3741	288	3710	MI Small Collection
Eastern Michigan University Herbarium	2469	620	2345	MI Small Collection
Field Museum of Natural History	66104	60916	64835	
Grand Valley State University	365	10	359	MI Small Collection
Green Plant Herbarium	18906	9832	0	CANADENSYS
Herbarium, Biodiversity Centre of Ontario	10230	0	10103	CANADENSYS
Herbier Louis-Marie (QFA) - Collection de plantes vasculaires	13321	9895	0	CANADENSYS
Herbier du Quebec (QUE) Collection de plantes vasculaires	504	504	0	CANADENSYS
Hillsdale College Herbarium	343	15	341	MI Small Collection
Hope College	594	3	583	MI Small Collection
Illinois Natural History Survey	48776	5489	35638	
J. F. Bell Museum of Natural History Herbarium	61518	4107	45965	
Jardin Botanique de Montreal	1286	37	0	CANADENSYS
Marie-Victorin Herbarium	35383	13491	394	CANADENSYS
Miami University, Willard Sherman Turrell Herbarium	18188	3	18152	
Michigan State University	35550	194	35312	
Morton Aboretum	21396	2126	19968	
New York Botanical Garden	146791	57172	11802	
New York State Museum	0	0		
Ohio State University Herbarium - Plants	30395	25663	29772	
Ohio University, Bartley Herbarium	4925	0	4904	
Seney National Wildlife Refuge	207	0	207	MI Small Collection
University of British Columbia Herbarium	26521	14165	3526	CANADENSYS
University of Illinois Herbarium	21893	0	21795	
University of Manitoba Vascular Plant Herbarium	5745	5566	0	CANADENSYS
University of Michigan Herbarium	75829	7788	67808	
University of Notre Dame, Greene/Nieuwland Herbarium	0	0	0	
University of Toronto at Mississauga Herbarium	10920	4014	0	CANADENSYS
University of Wisconsin-LaCrosse	7860	6872	7370	
University of Wisconsin-Madison, Wisconsin State Herbarium	94310	20281	92602	
University of Wisconsin-Milwaukee	7796	2060	7570	
University of Wisconsin-Stevens Point, Robert W. Freckmann Herb	12693	11159	1627	

Totals	799486	262293	497741	
Field Museum of Natural History - Fish	5524	374	4434	
Illinois Natural History Survey - Fish	30403	8325	19231	
J. F. Bell Museum of Natural History - Fish	15733	13788	5724	
Ohio State University Museum of Biological Diversity - Fish Divisior	9033	0	9005	
University of Michigan Museum of Zoology - Fish	34834	1762	643	
University of Wisconsin-Madison Zoological Museum - Fish	4601	446	4298	
Totals	100128	24695	43335	
Field Museum of Natural History - Mollusks	6438	159	0	Not funded by this TCN
Illinois Natural History Survey - Mollusks	8191	7672	2964	
J. F. Bell Museum of Natural History - Mollusks	1731	311	0	
Ohio State University Museum of Biological Diversity - Mollusc Divi	2376	0	2350	
University of Michigan Museum of Zoology - Mollusks	24299	2	7214	
University of Wisconsin-Madison Zoological Museum - Mollusks	531	425	460	
Totals	43566	8569	12988	
Grand Totals	943180	295557	554064	

Submission #985

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by psierwald
Thursday, April 27, 2017 - 18:59
107.0.125.5

TCN Name:
InvertEBase: Reaching Back to See the Future: Species-rich Invertebrate Faunas Document Causes and Consequences of Biodiversity Shifts

Person completing the report:
psierwald@fieldmuseum.org

Progress in Digitization Efforts:
FMNH Invertebrates: 1301 records entered into the database by K. Griffin-Jakymec [KGJ] (59 freshwater bivalves; 399 FW gastropods; 840 terrestrial gastropods; 3 other invertebrates) resulting in a grand total of 41964 records to date; 797 lots were identified by S. Clark [SC], several hundred additional lots by J. Gerber [JG]; the G. R. Webb Collection was organized and databased to the extent possible by KJG; SC and JG made further corrections and additions to the gastropod name file with a total of 4830 names. The taxonomy of 335 lots has been updated and labels printed for use by volunteers. Volunteers and KGJ re-labeled ca. 750 previously digitized lots.
FMNH Insects: At present, 111,191 records have been entered into our KE EMu database (representing 654,971 total specimens databased and barcoded). Data entry of Noteridae (pinned collection, Coleoptera) is complete. Data entry of Dermestidae (pinned collection, Coleoptera) is very near completion. Graduate intern Xavier Zahnle has completed the pre-curation phase of the pinned Hydrophilidae collection and has begun the pre-curation phase of the pinned Histeridae collection. Data entry of Hydophilidae will begin in the immediate future.
Zoological Museum, Michigan, Invertebrates: 5 undergraduate students (10 to 15 hours/week) entered 1,541 new records into UMMZ Specify database during 2/16/2017 - 04/20/2017 (land snails: 1,312; freshwater snails: 229); during the same period 487 data entries were georefer-enced and 544 lots were imaged (freshwater snails: 290; freshwater bivalves: 254). With the help of the University IT, an IPT test server has been created and tested for UMMZ Mollusk Specify database.
DMNH: In the past 2 months we have completed updates to the freshwater gastropod specimens and have uploaded them to both Symbiota and iDigBio. We now have 17,265 specimen records in Symbiota and 16,938 records in iDigBio. We have begun to address landsnails, starting with an inventory of the families Carychiidae, Ellobiidae and Amphibolidae. We expect to proceed in an interative process of inventorying, updating, and uploading families in roughly 2,000 lot increments, consistent with what is possible within the Specify worksbench. We are also working to understand why the record harvesting by iDigBio misses a fraction of the records found in Symbiota.
CMNH A total of 74,935 specimens have been digitized to date and include over 10,000 new records for the period 21 Feb 2017-25 April 2017. Digitization of our Diptera collection was completed; 20,917 records are now publically available.. Digitization of our minor holdings of

Orthoptera was also completed, representing almost 2,500 records. Digitization of our Lepidop-tera has commenced, with over, 1300 publically available records and an additional 3,500 images have been taken and are either transcribed to be entered or awaiting transcription during the work Study spring break. The Cleveland Insect data are now being served via an IPT instance to Symbiota SCAN and updated monthly.
Auburn: We continue to make good progress in insect specimen databasing efforts. To date we have accessioned ~190,000 insect specimens. Efforts have also shifted to focusing on other terrestrial arthropod groups. We have accessioned ~40,000 non-spider arachnid specimens (60% of the collection) and ~3,000 myriapods (92% of the collection). Efforts have also shifted to the spider collection with over 15,000 specimens accessioned to date, approximately half of which have been determined or existing determinations checked.
Frost: At least 35,880 Odonata specimens have been imaged and imported into our transcription/digitization workbench/database (TaxonWorks). More than 6,000 Odonata specimens/lots have been transcribed, with >10,000 georeferenced. For the Odonata specimens stored in etha-nol, we have captured the data of ~1,050 specimens of larvae and exuviae. Data associated with 730 Odonata specimens stored as pinned exuviae have also been transcribed and unique identifiers assigned.
A similar process has been applied to our butterfly collection, of which >4,400 specimens have been imaged and uploaded to the database. Our ethanol-preserved Anoplura and Mallophaga collection (260 lots) was partially databased on a spreadsheet (DwC-A). Our three current digitizers, including the PI, are working through our Coleoptera collection, using a two-part process: (1) apply unique identifier labels, transcribe and parse locality; (2) use GBIF/iDigBio best practices to georeference localities. Several families have been completely digitized and shared through SCAN (almost 3,000 specimens). Another ~18,000 specimens are fully transcribed and queued for georeferencing.

PEN grant: Chicago Academy of Sciences, start date: September 2016
CAS/PNNM Invertebrates: We have initiated the process of merging transcribed data from catalogue record books with specimen label data from a previous collection inventory, using Excel and Open Refine. Specimen labels for malacology lacked any descriptive locality infor-mation, and in many cases also the collector's name. This information resides in old catalogue books that have been transcribed. Merging this information with the data from the inventory is providing much more complete data for each specimen and we are excited to see this finally coming together. We've also started matching specimen records with accession data in Arctos and have matched records for 4,107 records thus far. Additional records in our archives and his-torical collection management records have been identified for inclusion in the data unification process. Collection metadata for malacology has been created and added to Arctos in preparation of data migration.
CAS/PNN Insects: We are cleaning data for Hymenoptera (1,344 specimens) and Diptera (1,713 specimens). Collection metadata for entomology has been created and added to Arctos in preparation of data migration.

Share and Identify Best Practices and Standards (including Lessons Learned):
FMNH Invertebrates: nothing to report
FMNH Insects: Nothing to report
Zoological Museum, Michigan, Invertebrates: nothing to report
DMNH: We continue to develop workflows for internal use on the set up of the DMNH server, creation of the Specify database, and routine use of the specify database. Some of these are potentially appropriate for novice collections to use as they begin to digitize their datasets, for example how to upload a taxonomy tree into Specify.
CMNH: nothing to report
Auburn: As previously reported database entry directly into Specify continues; this has slowed progress on the front end but circumvents the need for downstream database checking and conversion from excel.
Frost: We continue to update our workflows, which are available as now as PDFs at a new repository (links here: https://sites.psu.edu/frost/policies/). Additionally, we have published several

posts on our blog about lessons we've learned, from alcohol vial best practices to georeferencing. These posts are available at: http://sites.psu.edu/frost/category/curation/ and/or http://sites.psu.edu/frost/tag/digitization/
We've been testing this workflow: image specimen+labels => transcribe labels => georeference. For some types of specimens (e.g., Odonata, which are almost 2 dimensional and very well protected as specimens) this flow was rapid. We've found that for pinned material and vials a straight transcription into spreadsheet (DwCA) might be faster. This is still being tested with the Coleoptera specimens mentioned above, but results so far indicate that this is a much more efficient approach.
PEN grant: Chicago Academy of Sciences
CAS/PNNM Invertebrates: Our workflow documents for the process of incorporating tran-scribed catalogue records into existing malacology specimen data are being updated as we work with our intern on this task. We've learned that it is much more efficient to break down the data merge process into multiple steps that target specific fields, rather than reviewing all the data for each record at once. Data cleaning protocols using Open Refine continue to be refined.
CAS/PNN Insects: nothing to report

Identify Gaps in Digitization Areas and Technology:
FMNH Invertebrates/Insects: Nothing to report
Zoological Museum, Michigan, Invertebrates: nothing to report
DMNH: nothing to report
CMNH: nothing to report
Auburn: Batch georeferencing and data checking continues to be very tedious and time consuming
Frost: nothing to report
PEN grant: Chicago Academy of Sciences
CAS/PNNM Invertebrates: nothing to report
CAS/PNN Insects: nothing to report

Share and Identify Opportunities to Enhance Training Efforts:
FMNH Invertebrates/Insects: : Georeferencing training workshop to be held at FMNH on May 11, 2017. Employed intern for effective pre-curation of several water beetle families
FMNH Invertebrates/Insects and DMNH: There will be an iDigBio sponsored digitization workshop at the upcoming American Malacological Society meeting in July 2017. This work-shop will reach out to other mollusk collections to discuss best practices developed during InvertEBase, data standardization, and georeferencing. A ½ day workshop in georeferencing will be a focal point of the meeting. A total of 38 participants are expected (35 +3 iDigBio representatives).
Zoological Museum, Michigan, Invertebrates: nothing to report
CMNH: nothing to report
Auburn: nothing to report
Frost: nothing to report
PEN grant: Chicago Academy of Sciences
CAS/PNNM Invertebrates: nothing to report
CAS/PNN Insects: nothing to report

Share and Identify Collaborations with other TCNs, Institutions, and Organizations:
FMNH Insects/Invertebrates: Sierwald, Bieler, Gerber supporting the PEN grant of Chicago Academy of Sciences: collaboration on taxonomic authority files for North American terrestrial and freshwater arthropods and mollusks, data cleaning support to CAS/PNNM
Zoological Museum, Michigan, Invertebrates: The University of Michigan participants are collaborating with the Great Lakes Invasives TCN to make sure that data flows to both projects.
DMNH We have been coordinating the Mollusk Digitization workshop invitations and partici-pants, interacting with over 25 different institutions across the US, Canada and France (with FMNH).
CMNH: Once we commenced entering our Lepidoptera data in to Ohio State Universities data-base, we noted that the very few species were present in the database. We contacted Neil Cobb of the ButterflyNet project regarding a reliable taxonomy tree. Neil provided us with their taxonomy tree

that they have been using (developed by Greg Pohl and updated by Ben Brandt). Norm Johnson (OSU) has since uploaded the taxonomy tree for Lepidoptera in their database so we can now enter our data.
Auburn: nothing to report
Frost: We continue to collaborate with Matt Yoder and the Speciesfile group in their develop-ment of TaxonWorks. Their system can now export data to Symbiota, and they've been working to customize or otherwise adapt their interface to meet our needs. They are now building a spreadsheet import, so that we can share spreadsheets with both SCAN and TaxonWorks. They are also scaling up the georeferencing capacity of TaxonWorks, which will soon be able to match specimens collected at the same locality. For example, if one georeferences Locality A for a scarab beetle the system will, with confirmation from the user, apply the lat/long to other insects collected at Locality A.

PEN grant: Chicago Academy of Sciences
CAS/PNNM Invertebrates: We have been collaborating with PI Rudiger Bieler and collection manager Jochen Gerber (both FMNH) to validate taxonomy in our malacology data and make updates.
CAS/PNN Insects: We have been collaborating with PI Sierwald from the FMNH to validate taxonomy in our entomology data and make updates using resources including the World Spider Catalog (http://www.wsc.nmbe.ch/)

Share and Identify Opportunities and Strategies for Sustainability:
FMNH Insects/Invertebrates: several volunteer and intern-based pre-curation and data entry projects, matching to TCN digitization
Zoological Museum, Michigan, Invertebrates: nothing to report
DMNH: We will present findings of the workshop to the AMS membership at the President's Symposium, and the resulting papers will be published by the American Malacological Bulletin.
CMNH: The collaboration between CMNH and Northeast Reintergration Center is still proceeding.
Auburn: nothing to report
Frost: nothing to report
PEN grant: Chicago Academy of Sciences
CAS/PNNM Invertebrates: nothing to report
CAS/PNN Insects: nothing to report

Share and Identify Education and Outreach (E&O) Activities:
FMNH Invertebrates: nothing to report
FMNH Insects: Held inaugural meeting of the Collections Club, on January 22 at The Field Museum. The Collections Club was created due to volunteers expressing continued interest after their participation in the 2016 WeDigBio transcription event. The Collections Club has over 40 active members with a diverse range of backgrounds including teachers, librarians, photographers, accountants, docents, and more. The major goals of the Club are to harness the enthusiasm generated by the recent WeDigBio event, deepen the connection between scientific collections and the general public, and increase engagement through hands-on participation in the digitization of collections.
Zoological Museum, Michigan, Invertebrates: So far 1 high school volunteer, 15 undergradu-ate students and 1 master student have been hired and trained for data entry, molluscan taxono-my, museum curation, specimen imaging, and georeferencing.
DMNH: nothing to report
CMNH: The Invertebrate Zoology department at CMNH hosted the monthly museum program "Think and Drink with the extinct". One of our display tables focused on the digitization effort within our collection and the larger global effort. Over 680 guests plus numerous internal museum staff attended the event.
Auburn: nothing to report
Frost: We now have two undergrads working with us for research credit. One is assisting in the digitization of Odonata (see progress above), while the other is focused on Hymenoptera. Both of

these students were recruited through our outreach efforts in undergraduate entomology classes.
PEN grant: Chicago Academy of Sciences
CAS/PNNM Invertebrates: Our second intern through the NSF PEN grant has been hired. She is assisting with the data merge of catalogue record book data and specimen inventory data.
CAS/PNN Insects: We have an NSF supported intern working with Hymenoptera specimens. As part of our broader impacts, he has taken images of insect specimens that are being shared through CAS/PNNM's social media outlets. A second intern, a student at Loyola University in Chicago, is now working with us on the project to clean data and reorganize Diptera specimens and a volunteer has been conducting similar activities with Hemiptera specimens.

Other Progress (that doesn't fit into the above categories):
FMNH: Georeferencing workshop organized at Field Museum
Zoological Museum, Michigan, Invertebrates: nothing to report.
DMNH: nothing to report
CMNH: nothing to report
Auburn: nothing to report
Frost: nothing to report
PEN grant: Chicago Academy of Sciences
CAS/PNNM: nothing to report

Attachment 1
Full page photo.pdf

Attachment 2


Become a
member today

Submission #986

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by chrisneefus
Monday, May 8, 2017 - 10:02
132.177.112.80

TCN Name:
The Macroalgal Herbarium Consortium: Accessing 150 Years of Specimen Data to Understand Changes in the Marine/Aquatic Environment

Person completing the report:
Chris.neefus@unh.edu

Progress in Digitization Efforts:
See attached table.

Share and Identify Best Practices and Standards (including Lessons Learned):
Our workflow for herbarium sheets is well established and are being used by most of the other TCNs that are digitizing herbarium sheets.

Identify Gaps in Digitization Areas and Technology:
The is no established standard workflow for bound exsiccate. We have digitized several and are refining our methods as we go.

Share and Identify Opportunities to Enhance Training Efforts:
A number of new students imagers have been added to the project in several of the collaborating and digitizing institutions. Training has been done by personnel who have been working on the project for a while and via our online training resources.

Share and Identify Collaborations with other TCNs, Institutions, and Organizations:
Nothing new to report.

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

Share and Identify Education and Outreach (E&O) Activities:
Nothing new to report.

Other Progress (that doesn't fit into the above categories):
Significant progress has been made on the new Spatial Module for the portal. When completed, it will be available to all TCN using Symbiota.

Attachment 1
digitization numbers 5-8-2017.pdf

Attachment 2

Source URL: https://www.idigbio.org/node/564/submission/986

				Percent Complete				
Digitizing Institution	**Start**	**Collections**	**Specimens**	**Records Created**	**On Portal**	**Imaged**	**Transcribed**	**Geo-referenced**
University of New Hampshire	Year 1	10	136,079	1	1	1	1	1
New York Botanical Garden	Year 1	5	170,236	1	1	1	0	0
University of North Carolina	Year 1	7	59,209	1	1	1	1	1
University of Michigan	Year 1	5	95,571	1	1	1	1	1
University of Washington	Year 1	3	36,098	1	1	1	1	1
Duke University	Year 1	1	22,014	1	1	0	1	1
University of Alaska SE	Year 1	1	9,889	1	1	1	1	1
Bishop Museum	Year 1	1	65,000	1	0	0	0	0
Field Museum	Year 1	1	48,058	1	1	1	1	1
Oregon State University	Year 1	1	12,120	1	1	1	1	1
University of Guam	Year 1	1	13,600	0	0	0	0	0
University of California - Berkeley	Year 2	9	229,066	0	0	0	0	0
University of Hawaii	Year 2	1	4,730	1	1	0	1	1
Harvard University	Year 2	1	150,000	0	0	0	0	0
Academy of Natural Sciences	Year 3	1	36,595	1	1	1	0	0
University of Vermont	Year 3	1	3,500	1	1	1	1	1
	Totals	49	1,091,765	778,152	753,924	678,528	538,153	455,997
				1	1	1	0	0

Submission #987

Submission information

Form: TCN Bi-Monthly Progress Report to iDigBio
Submitted by chdietri
Monday, May 8, 2017 - 12:42
130.126.115.104

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:
Although most InvertNet collaborators have depleted their grant funds, several continue to submit hard drives containing sets of high-resolution images of whole drawers of pinned insects to the lead institution for upload to the website. INHS IT staff have nearly completed the upgrade of InvertNet infrastructure that will provide a more sustainable and manageable platform than the previous HUBzero-based platform.

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 1

Attachment 2