

GREAT LAKES INVASIVES TCN – Bi-monthly report Feb 1, 2015 – April 30, 2015

Third GLI TCN report, representing eight months' of effort to date.

Our four regional data processing centers (NY Botanical Garden, Field Museum, Univ of Michigan, and Univ of Wisconsin-Madison) report the following from their constituents:

1) Progress in Digitization Efforts TO DATE -- Visit GreatLakesInvasives.org

PLANTS:

Specimens Barcoded Only: 32,415 (NY) + 18,189 (ILLS) + = **50,604**

Barcoded and Imaged to Date: 58,698 (WIS) + 59,517 (NY) + 6,606 (OSU) + 3,981 (MIN) + 17,891 (MICH) + 520 (ILLS) + 9,402 (F) + 2,309 (MOR) + 4,880 (MU) = **163,804**

Databased to Date: 58,698 (WIS) + 16,275 (NY) + 35840 (MIN) + 17,742 (MICH) + 27,000 (ILLS) + 15,020 (F) + 12,078 (MOR) = **182,653**

Uploaded to iDigBio, the GLI Portal directly or to another Symbiota Portal for editing before transfer to GLI Portal: 58,698 (WIS) + 13,349 (MICH) + 520 (ILLS) + 5,783 (F) + 4,616 (MIN) + 9,624 (MOR) + 9,804 (ALBC) + 21,452 (NY) + 160 (MSU) + 6,606 (OSU) + 214 (UWM) = **130,826**

- Note that the new 'Consortium of Midwest Herbaria' Symbiota portal, which is directly related to this TCN, now has 782,296 occurrence records available from 21 herbaria. All of these will eventually be ingested by iDigBio. Visit MidwestHerbaria.org

MOLLUSKS:

Barcoded and Imaged to Date: **3,045** lots imaged to date, representing 3 different genera (UMMZ)

Databased to Date: all specimen records (ca. 2,000 - ILLS) + 11,461 records added to date, representing 29 genera and 289 species (UMMZ) = **13,461**

Uploaded to iDigBio, the GLI Portal or another Symbiota Portal: 1,404 (UMMZ) have been uploaded to the GLI portal + all specimen records (ca. 2,000 - ILLS) uploaded to the iDigBio web portal = **3,404**

FISH:

Specimens Barcoded Only: **976** (MIN)

Barcoded and Imaged to Date: 493 (MIN) + 130 (F) + 636 (OSU) = **1,259**

Databased to Date: 27,145 (ILLS) + 1,469 (MIN) + 81,324 specimens [in 4,709 lots (F)] = **109,938**

Uploaded to iDigBio, the GLI Portal &/or another Symbiota Portal: 505 (MIN) + 636 (OSU) to GLI + all specimen records (27,145 - ILLS) uploaded to the iDigBio web portal = **28,286**

2) Share and Identify Best Practices and Standards / Lessons Learned

Some participants report that they have discovered a lot of issues with their Specify database, and are fixing these before photographing specimens; this will soon determine the final imaging rate at which they can move forward with animal digitization. “We have discovered a lot of old specimens sitting on the shelf which were never entered into our electronic database, a function of the history of the collection.”

A squeeze tank, long used by ichthyologists to photograph specimens in the field, works well for specimens up to 10cm in length and a student worker can photograph 60 specimens in three hours. We have not tried to photograph larger specimens or eccentrically shaped fishes such as catfish.

Another institution states that “we find that our photography of fish specimens works best when the specimens are submerged in ethanol in a glass pan that is suspended approximately one foot above the stage of a camera stand illuminated by two fluorescent lamps. The stage is matte black. This setup allows for the fish to be in focus while the background is somewhat blurred. The digitization process is smoothest when two students are working simultaneously; one student prepares the specimens and labels for imaging while the other operates the camera, scans the barcode, enters label information, and checks the quality of the photograph.”

A herbarium partner shares “We write an “I” by the barcode to indicate that specimen has been imaged. This way we will know in the future what specimens have images and which ones aren’t as new herbarium specimens get added to folders that have already been imaged.”

Likewise some are using an inexpensive red ink stamp “imaged” to mark sheets that have been photographed for one project or another.

3) Identify Gaps in Digitization Areas and Technology

The lack of a single protocol for fish imaging has been a source of frustration for some. Likewise the inconsistent use of disuse of barcodes to serve as GUIDs has been a source of great debate among the zoologists in our TCN.

One partner shares that . . . “Digitization of alcohol preserved specimens will always be slow due to the handling time involved. We will never achieve the levels of throughput that botanical collections can generate. The utility of barcodes in alcohol preserved collections is debatable and several groups in our TCN have not elected to use them as their lots already have unique identifiers; we have elected to use them in the Bell Collections as the barcodes can be generated within SPECIFY from our catalog numbers. Thus the barcodes do not add an additional number to track and with the work flow we have developed, serve a useful tool in matching the specimen data to the photograph.”

4) Share and Identify Opportunities to Enhance Training Efforts

Nothing to report

5) Share and Identify Collaborations with other TCNs, Institutions, and Organizations –

Nothing to report

6) Share and Identify Opportunities and Strategies for Sustainability

Nothing to report

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

Larger institutions such as NY and F are establishing IPT methods to upload data directly to iDigBio or to other repositories. For example, Field reports that "Botany will soon be able to publish its own KE EMu data --and images-- to GBIF. Once there, the data can be captured using the correct project code or name as a filter, and then it can then be posted to the Great Lakes TCN." A revised and reversed workflow (i.e., from iDigBio back to the TCN portal) will need to be considered in order to capture all relevant data in developing the Great Lakes Invasives portal as a focused tool for invasive species biologists.

Submitted by Ken Cameron, May 5, 2015