Illustrating Value Added in Databasing Historical Collections: Entered, (Proofed?), and Done (or Not!)

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Collections are a Time Machine to Allow Study of the Past

To put “flesh” on the bones of work such as pre-settlement vegetation studies or to help determine the nativity and original distributions of plants means we have to go back as far as possible in time.

The original data:

Michigan, Mackinac Co., Mackinac Island [certainly near the site of Old Fort Mackinac, ca. 45.8516 N, 84.6168 W]
Thomas Nuttall, Aug. 12 – ca. Aug. 17, 1810 “Lost all but this fragment”
Here is why these early collections are important. In Michigan, the decade from 1831 to 1840 has nearly 1500 collections surviving, many with habitat data, to offer a baseline for the flora. We want to know as much as we can about them!
Planning for the Process of Getting Data from Specimen Labels into Digital Form Normally Revolve Around Speed, Efficiency, and Standardization, with some Unease Often Present about the Determinations

These labels are quick and easy!

But completely different considerations take hold with older collections, especially those with scanty data and lacking original labels

Can we even do anything with these scanty labels?

Jonesville???

Adrian???
Upgrading Labels...

Label of sheet in Torrey’s Herbarium (NY) of the first known collection of *Adenocaulon bicolor*

This label is basically useless

"Lake Superior"  "Dr. Pitcher"
The easiest way to augment and upgrade these data and the greatest safeguard in the long run against data loss in these historical collections has been the existence of duplicates in other herbaria.

Now we are getting somewhere:

[Sault] Ste. Marie
At the base of Colepit Hill
June 24, 1826

But still, no Country or State, and where on earth is Colepit Hill??
The MICH Sheet of Adenocaulon bicolor

Note two things:
1. The standardized label copied from the original (which thankfully, was not discarded this time!)
2. The notation about the location of "Colepit Hill"

Now we know it was Sault Ste. Marie, Michigan, USA, and the base of Colepit Hill was ca. 46.4936° N, 84.3622° W – That is useful!
The only apparently original field label by Douglass Houghton I have seen from 1831 – pretty hard to place!

Bela Hubbard, Houghton’s geology assistant had very neat and precise writing. These labels, however, were written after 1837 and are not original – these two are in fact from Michigan.
Fixing Missing Data/Errors on Specimens

1. Intrinsically correctable errors – identifications, synonymy, upper level geography, etc. – minor (though sometimes time consuming!)

2. Errors that need correcting with extrinsic material – needing information external to the label to correct/augment the data – diaries, field books, re-constructed itineraries, labels of duplicates, comparison with known collections and labels, etc. – much more difficult!

There is one other issue here – people are often willing to augment labels, but are much more nervous when apparently correct data contradicts what is on the label
1831 Schoolcraft Expedition Itinerary

- Keweenaw Portage Terminus, July 9
- Misery River Mouth, July 10
- Ontonagon River Mouth, July 11, 14, 14
- Huron River, July 4
- Granite Point, July 2
- Dead River Mouth, July 1
- Grand Island, June 30
- Grand Marais, June 29
- Point Iroquois, June 26??
- Vermillion Bay, June 28
- The Ontonagon Boulder, July 12 - 13
- June 11-25
- June 13
The First Geological Survey, 1837-1840

LAWS OF MICHIGAN.

[No. XIX.]

An Act appointing commissioners to lay out and establish a state road from Dexter, in the county of Washtenaw, to Lyons, at the mouth of the Maple, in the county of Ionia.

Sec. 1. Be it enacted by the Senate and House of Representatives of the State of Michigan, That there shall be a state road laid out and established from Dexter, in the county of Washtenaw to the county seat of Ingham county, and from thence by the most direct and eligible route to the village of Lyons, at the mouth of the Maple. And that Solomon Southerland, of Unadilla, Edward Lyon and A. Crossman, of Dexter, be, and they are hereby appointed commissioners for that purpose.

Sec. 2. That in laying and establishing said road, the state shall not be liable for the expenses or damages incurred thereby.

Sec. 3. That if the commissioners shall not have performed the duty imposed upon them by the first section of this act, before the first day of January, eighteen hundred and thirty-nine, and all other things required by the existing laws, in relation to the laying out of state roads, then this act shall be void and of none effect.

Approved February 16, 1837.

[No. XX.]

An Act to provide for a geological survey of the state.

Sec. 1. Be it enacted by the Senate and House of Representatives of the State of Michigan, That the governor is hereby authorized and directed to nominate, and by and with the advice and consent of the senate, to appoint a competent person, whose duty it shall be to make an accurate and complete geological survey of this state, which shall be accompanied with proper maps and diagrams, and furnish a full and scientific description of its rocks, soils and minerals, and of its botanical and geological productions, together with specimens of the same; which maps, diagrams and specimens shall be deposited in the state library, and similar specimens shall be deposited in such literary and scientific institutions as the governor shall direct.

The Act was approved February 23, 1837, only 28 days after Michigan achieved statehood on January 26!
But the labels are challenging!

In what year was this collected and, leaving from consideration that somebody later penciled in “Mich,” where was Mason?

At least we know this is from Michigan!
So here is the situation...

No original label exists for this collection; the label here was written by Bela Hubbard, Douglass Houghton’s assistant.

Despite the attribution to Douglass Houghton, this collection was made July 31, 1837 by Abram Sager, then Botanist and Zoologist to the First Survey, near present day Coldwater, the former town of Mason (or Masonville) being along Hwy 12 near the Coldwater River, just W of present day Coldwater, ca. 41.9454° N, 85.0305° W.
More labels by Bela Hubbard – no year, but luckily, he only did the 1837 First Survey labels at MICH, not 1838, so anything with his label is from 1837 (or from earlier Houghton collections)

We still don’t know where Squaw Island is exactly!
The First Survey Parties collecting in 1837
The Map that All Well-Equipped Travelers Used...
The 1837 Survey Party Itinerary

Aug. 26 - Sept. 5, Kalamazoo or the County
Aug. 24, St. Joseph R., "Cass Co. SE Corner"
Aug. 4-23, White Pigeon
Aug. 1-3, "Sturges Prairie"

July 26 – Aug. 1, Coldwater
July 12-25, Jonesville
July 6-8, Adrian,
June 20 – July 1, Monroe
June 12 – 20, Brownstown, Gibraltar, Grosse Isle, etc.
June 12 – 20, Brownstown, Gibraltar, Grosse Isle, etc.
July 3, Dundee
Sept. 10, Dearborn

Derived from integrating dates and locations from specimen labels and Abram Sager’s brief report with the known routes, towns, and other features existing in 1837 (the 1835 Augustus Mitchell map used as a backdrop)
Arbitrary Sample of 100 First Survey Collections from 1837

Number of Collections

Specimen Issues

Frequency

No State
No Year
Wrong Year
No day/Month

Specimen Issues
This is a Huge Amount of Work!

All this work makes sense only in the context of these valuable historic baseline collections, so:

Don’t bother when:

1. Such errors/problems occur with recent collections – just throw them out!
2. The historical collections are sparsely represented among the holdings [GH First Survey sheets]
3. Collections not part of a set and have ultra-vague localities, e.g., “southern Michigan”
4. Collections represent common plants, unless part of a more comprehensive set

Do take the trouble:

1. For historical collections with abundant representation
2. For collections where you have the first set and can know hard-to-discover things like the handwriting involved, etc.
3. For the very earliest collection from the region of interest
4. For rare or extirpated plants of the local region
Thank You!