The Illinois Natural History Survey Insect Collection (USA: Illinois) recently migrated from several legacy collection management systems and into TaxonWorks, a biodiversity data management and digital infrastructure development for the Illinois Natural History Survey (INHS) and its collaborators at INHS. The migration process had several immediate outcomes. First, it pulled together over five separate datasets that were formerly isolated collection management databases. Second, new features for better collaboration and data visualization were born. Third, the migration itself introduced issues emerging from the complex mapping of data to new data models. Once the migration was in place, we had the opportunity to survey issues related to improvements in collection management workflows in conjunction with development of TaxonWorks. Adoption of the new system allowed us to rapidly assess digital data, enact changes, and bring about a fruitful development of TaxonWorks. As we move forward encountering our resultant digital assets, we are excited to imagine the possibilities of a flexible and innovative system that can provide new solutions to our ever-changing needs.

Methods

As the INHS-IC was one of the first to migrate to TaxonWorks, allowing easier migration and management of e.g. specimen digitization, loan management, and label printing. Our pre-migration workflows were complex, involving several databases and preceding three different systems if database corresponding to collection objects, collection events, people, and items (mostly Access for container profiles, and tables with SQL inserts), these data were organized with the development of use-case features in TaxonWorks.

Results

We initiated a collaboration with other collection managers along with their associated curatorial work. People, taxon, occurrences, locality, and container tables. Once in TaxonWorks, we were able to run queries against a unified dataset for the first time I. We included a variety of standard operating procedures, with some generating only images, others only verbatim data, or others only parsed data. With the robust data architecture required at later points in time. For example, the numerous specimens generated with only minimal transcription were able to be captured in an easy and quick to understand visual format for rapid evaluation. The evolution of databasing at the INHS-IC (INHS Insect Collection 240815, Bombus [Tha arouscephobum] dahlbomii).

Collecting Event Summary Data

We defined a collection event as the act of collecting, including several hundred thousand images and collection objects in collection management highlighting the needs for specialized interfaces for collection management. Third, the migration itself introduced issues originating from the complex mapping of data to new data models. Once the migration was in place, we had the opportunity to survey issues related to improvements in collection management workflows in conjunction with development of TaxonWorks. Adoption of the new system allowed us to rapidly assess digital data, enact changes, and bring about a fruitful development of TaxonWorks. As we move closer to recording our millionth digital accession, we are excited to imagine the possibilities of a flexible and innovative system that can provide new solutions to our ever-changing needs.

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The authors wish to thank the Species File Group (https://www.speciesfile.org) for the development of required features in TaxonWorks. Adoption of the new system allowed us to fully absorb digital assets, including several hundred thousand images and collection objects in collection management. As we move forward encountering our resultant digital assets, we are excited to imagine the possibilities of a flexible and innovative system that can provide new solutions to our ever-changing needs.

Fig. 1. INHS Insect Collection 240815, Bombus [Tha arouscephobum] dahlbomii.

Fig. 2. Collection objects by preparation type in the INHS Insect Collection.

Fig. 3. Collection objects by preparation type in the INHS Insect Collection.

Fig. 4. Issues reported to the TaxonWorks GitHub issue tracker following the migration of INHS-IC data and begins of daily use.

Fig. 5. "Grid Digitizer" task developed to import images of scanned slides and (planned) scanned accession books.

Fig. 6. "Transcribe depiction" task developed to parse verbatim label values from staged specimens. Color hexagons indicate "completeness" as we move forward encountering our resultant digital assets, we are excited to imagine the possibilities of a flexible and innovative system that can provide new solutions to our ever-changing needs.

Fig. 7. "Browse collection object" task, showing annotations, determinations, and depictions.