Introduction to GRIN-Global

Self-Paced Tutorial with Exercises

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Getting Familiar with the GRIN-Global Curator Tool

This Document's Objective

This document's objective is to provide a basic tutorial to GRIN-Global, especially the Curator and Search Tools, which are the applications used internally within the genebank organization for managing the genebank's germplasm inventory.

Background

The GRIN-Global system consists of several components. Typically, the genebank (institute) sets up the GRIN-Global (GG) database on a server.

Often a Public Website is made available to the public such as germplasm requestors, information seekers, etc. The Public Website is browser-based and nothing needs to be installed on a user's PC to use it, other than to have the correct URL to link to the database on the server.

Users working in the genebank will access the GG database by using two applications: the Curator Tool and the Search Tool. These two software tools must be installed on the user's PC. Frequently this is a task left to an institute's IT professional, who is familiar with installing programs and who has the proper permissions to install the software.

 (It is possible set up the entire GG system on a user's PC, so that the PC acts as a server and contains the database, but that is not the norm and will not be explained in this document.)

Before proceeding, have someone who has the authority and expertise install the GG Curator and Search tools on your PC. The GG documentation is online at https://www.grin-global.org/ *On the menu, select* ***Documentation ➔ Installation Guide for the Curator Tool****.*

Videos

You may find some of the online GG videos to be helpful. On the GRIN-Global project website, [https://www.grin-global.org/] under **Documentation**, there is a link to a page with video links:
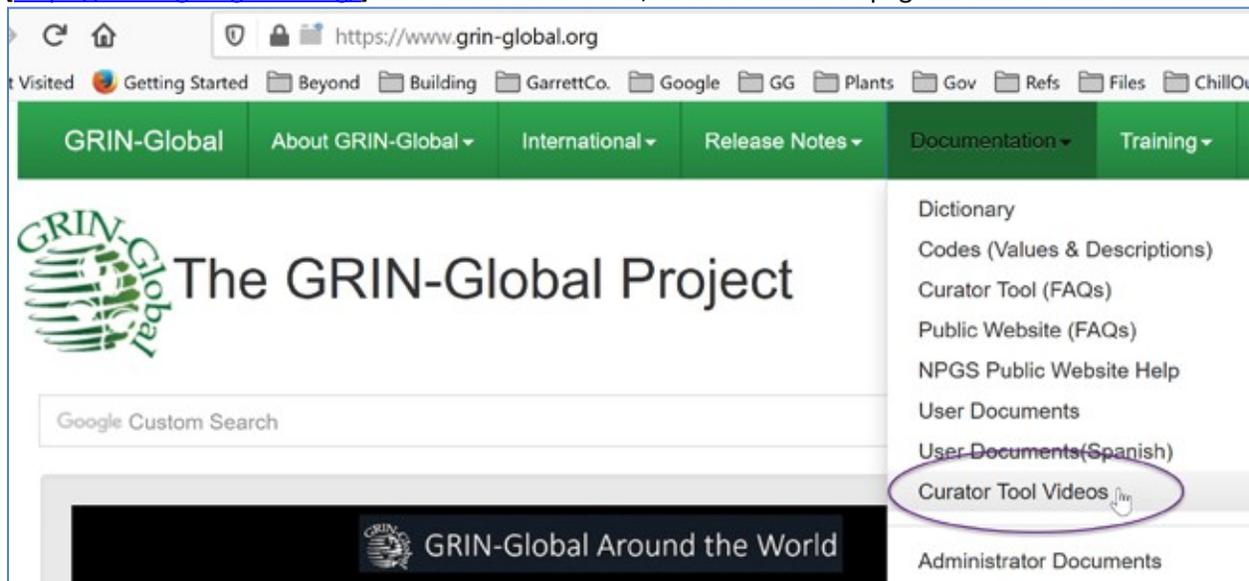
There are numerous guides on assorted GG topics available under **User Documents**.

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1. Log in

Obtain your **Username** (usually your email address) and **Password** from the GRIN-Global administrator. Also obtain the server information (**Connect To:**) from the administrator.

Username: _____

Password: _____

Connect To: * _____

When these three items are correctly supplied, you should be able to click on the **OK** button and continue.

* every organization has their own server. For this exercise, at NPGS, the training server's address is: training.ars-grin.gov

2. Initial Loading of Lookup Tables

When you initially use the Curator Tool, you must update your PC's "Lookup Tables." These are tables that are stored on your PC and correspond with the tables on the server. They were designed to speed up searches. The downside is that the initial updating sometimes takes a few minutes. There are multiple methods for updating the lookup tables, but the simplest is to click the **Refresh Data** button near the bottom right corner of the Curator Tool's opening screen:
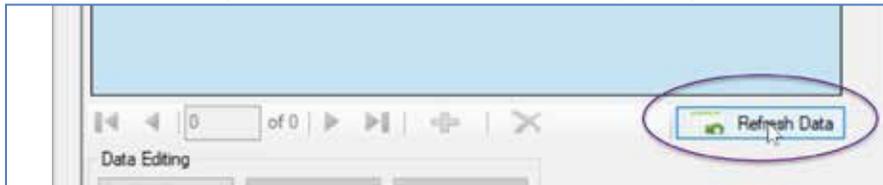
Alternatively, if you are prompted by a message indicating that your lookup tables are not current, affirm that you do want to update. A Lookup Table Loader window will display; click the **Load All** button. Unlike the screen shown here, the bars in the progress column most likely will be orange in color. After you click the **Load All** button, the orange colored progress bars will eventually become green.
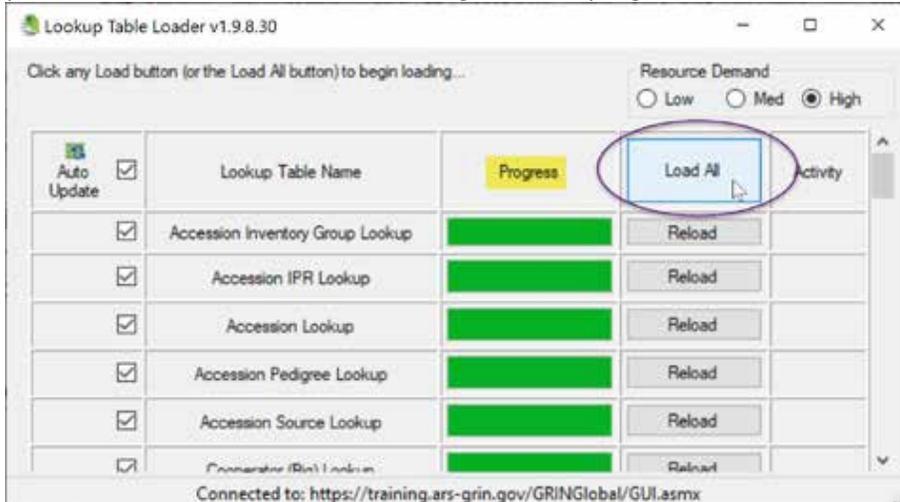
3. Launch the Search Tool

When the Curator Tool is installed, the Search Tool is installed simultaneously. Either can be launched from the Windows Start menu on the PC, but most people will launch the Curator Tool (CT), and then within the CT, click on the **Search** button to launch the Search Tool.

Why two programs? You use the Curator Tool to maintain ongoing lists and pointers to database records in which you have some interest. You also can edit/modify/delete records when using the Curator Tool, but you guessed it – you use the Search Tool to find records in the database.

In this tutorial, we'll show you how to find records in the database, and then drag them to the CT for further review.

In the Curator Tool, in the upper left corner, click on the Search button to launch the Search Tool. (I generally do this once a day, and leave the Search Tool open throughout the day.)
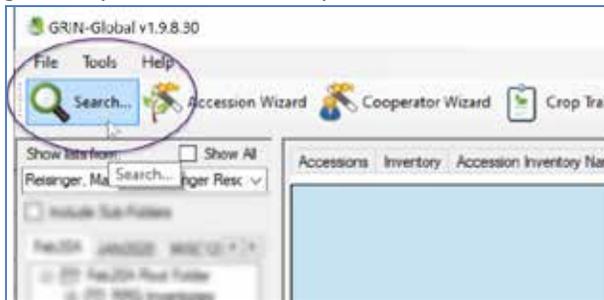
There are multiple methods for using the Search Tool; to completely cover all of its features is beyond the scope of this tutorial. The main goal here is to show how to find records in and drag them to the CT.

In this example, the user has typed **Humulus%** in the cell above the Taxon column. (The Taxon consists of the binomial genus/species; in this case the user is using a wildcard, the %, to indicate uncertainty about the species – only the genus *Humulus* is being specified.)
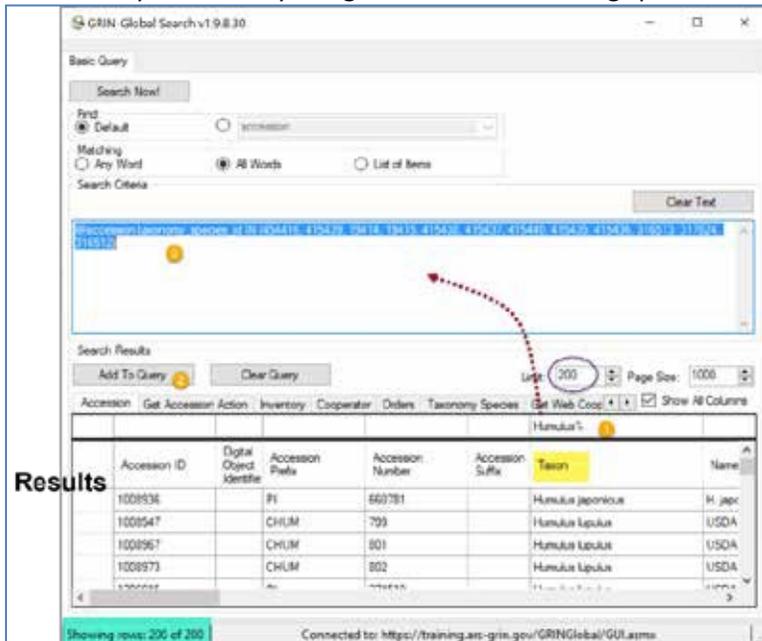
200 records were found and then displayed in the grid at the bottom of the window. The limit had been set to 200 by the user; in this database there are probably more than 200 *Humulus* records, but we can't tell with certainty. (If the Limit had been set to 5000, and only 200 were found, then we would know.)

Typically, a user will take the found records and build a list in the CT. At a later date, the user does not need to redo the Search; she can review the list directly in the CT.

The query was built in the upper large text box. The numbers in the list "IN (454416, 415439, 19414, ..., 316512" are the record IDs of the taxonomy_species records whose Taxon begins with Humulus. Apparently, there are 12 records in that table that match.

As an aside, the % is a wild card, so is the asterisk (*). Both do the same thing – they can represent any character and any number of characters. A third wild card is the underscore (-) that represents any single character.

The row of empty cells above the grid can be cleared at will by *right*-clicking and selecting **Clear** or **Clear All**. **Clear** empties just the immediate cell; **Clear All** obviously empties all of the cells.
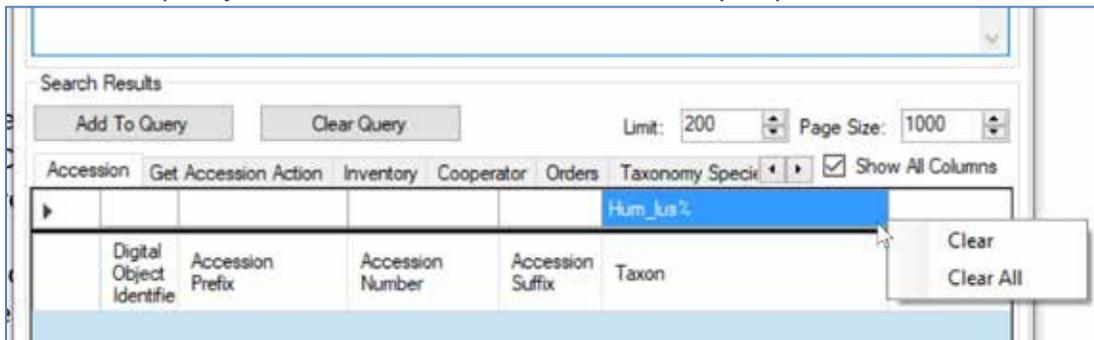
4. Curator Tool Screen Basics
Let's switch to the Curator Tool window and review its basics. The CT has two panels, a left and a right.
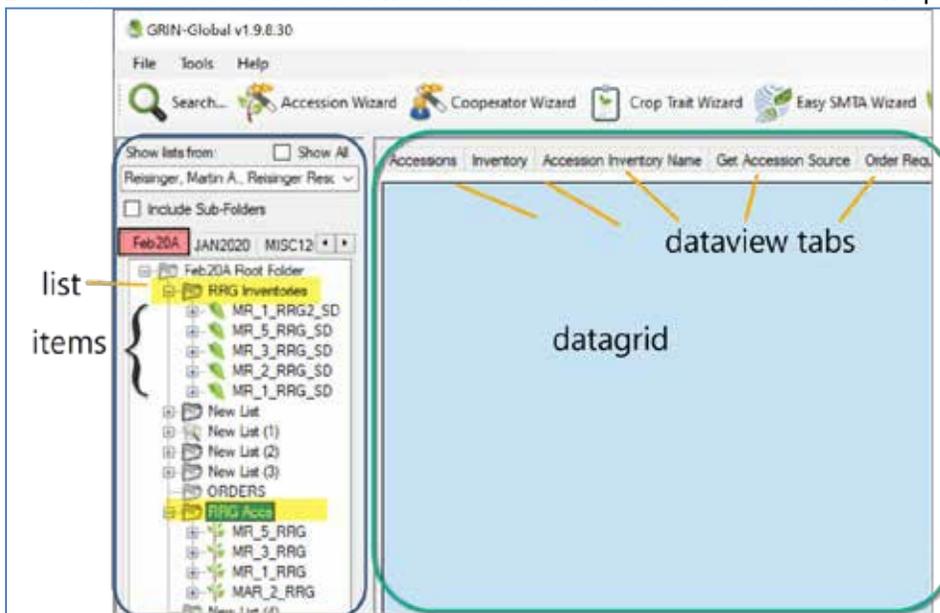
The simpler side is the right side, the datagrid. It will provide a look at records in the database. Within the datagrid, you can edit data and add new records, depending on what permissions you have been assigned. The dataview tabs act as camera lenses. You only see what the dataview has been programmed to display. Generally, one dataview tab is primarily associated with one table. For example, the **accession** dataview is associated with the accession table. A few other fields from other tables will also be displayed.

No records are shown in the screen above because none of the dataview tabs have been clicked (selected) yet.

The left panel is more complex. Think of this as your notepad. You can set it up any way that you want – no two users will have exactly the same lists and items in the panel. The yellow highlighter in this example is highlighting two folders, **RRG Inventories** and **RRG Accs**. The folder names are whatever the user desires. The folders are similar to the folders in Microsoft Explorer – when you click on the plus symbol to the left of the folder name, the folder expands and lists its items. The default name for new folders is **New List**. (Think "List" = Folder. The number in parentheses after any folder name simply avoids having duplicate name.)

Items have been programmed with visual icons indicating the item type. Over time, these icons become familiar.

Rather than have many folders on top of each other, you can also create Tabs in the left panel. The **Feb20** tab in the panel is currently highlighted. We can't tell from this screen what lists have been created under the other tabs (**JAN2020**, **MISC12**…) A user can click on any tab to make that tab the active tab, thus displaying the folders and items under that tab.

5. Drag the found records from the Search Tool to a List in the Curator Tool

When a user finds records and is interested in creating a list for future use, he can drag the records from the Search Tool to the Curator Tool. It may seem a bit tricky at first to gracefully execute a "drag and drop." This step requires some manual dexterity! (Review the video https://www.grin-global.org/videos/lists.swf to see how it's done).
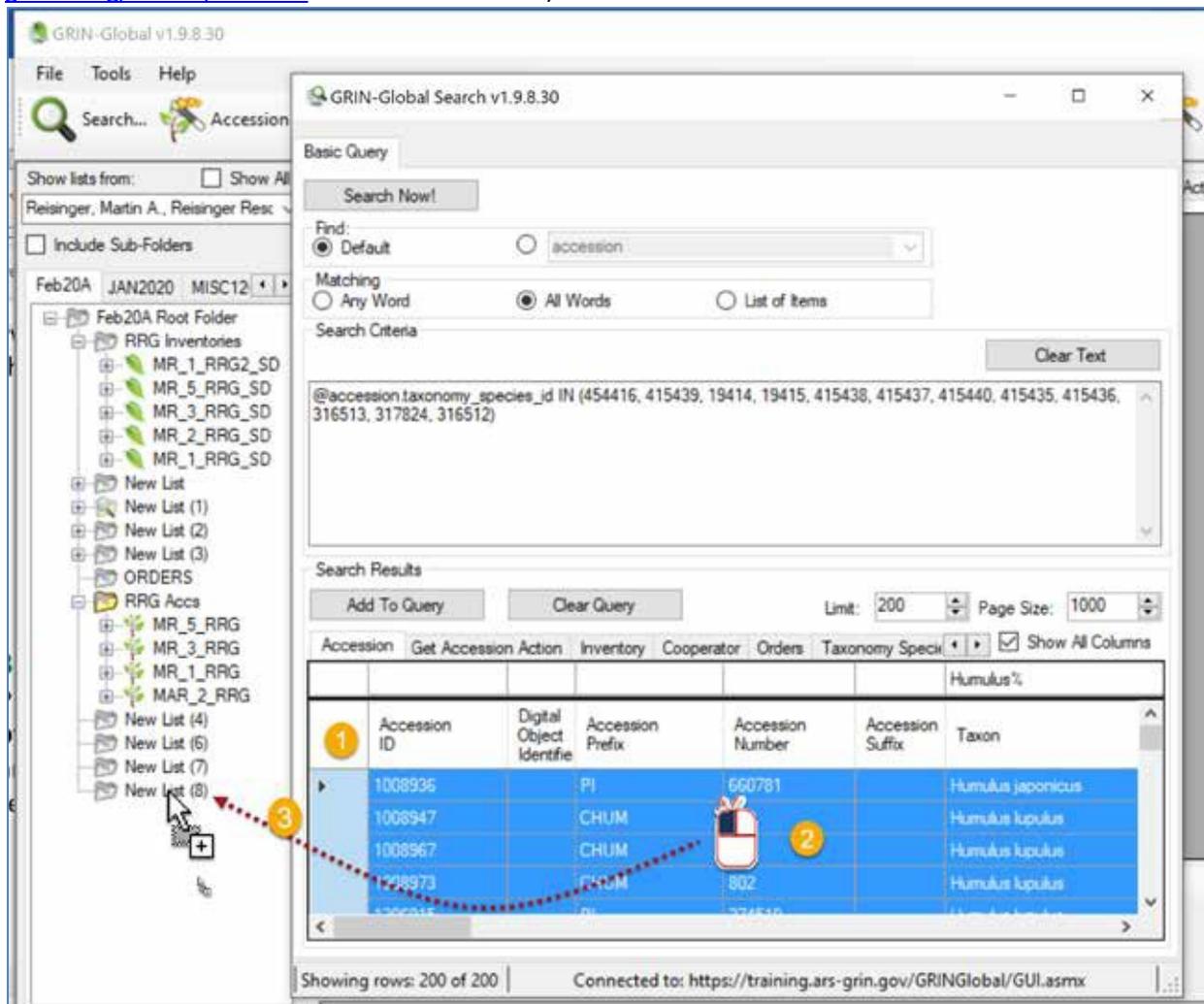
We had searched earlier for the *Humulus* records. In the upper left corner of the lower grid the user:

(1) double clicks to select the entire grid, shown in blue. Then he
(2) clicks anywhere in the blue area and
(3) while holding the mouse button, drags to a list in the CT window.

In the example shown above, having the Search Tool window on top makes it easier to see while you are dragging over to the CT list.

Practice! After dragging records from the Search Tool to the Curator Tool, you will see the list of items under a folder. The corresponding records will be listed in the right panel. You may need

to click on the accession tab first:
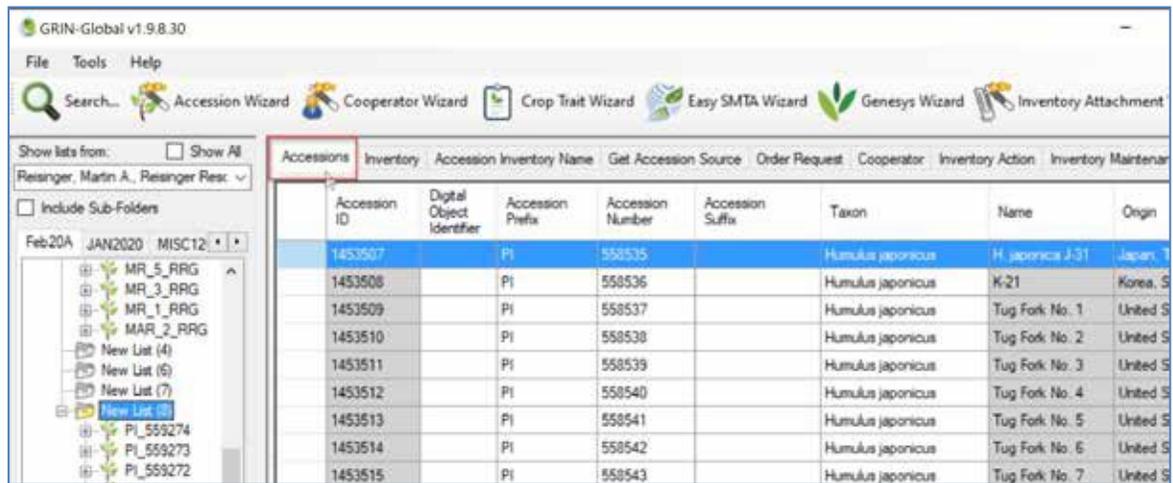
6. List and Tab Management

You can move items from one list to another, rename lists, and perform other list commands by selecting a list and then right-clicking to display a menu of options:
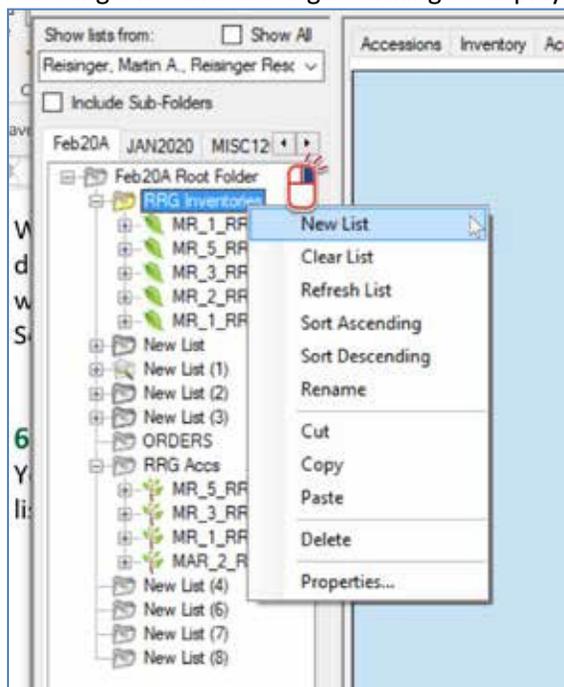

Practice by renaming a list.

Lists are extremely versatile and personal. You create and modify lists to manage and track your data to meet your specific workflow needs.

|	
Note	When you delete items in *your lists*, you are not impacting the actual database records. Experiment! If you *delete any list items*, (in the left panel), repeat the search in the Search Tool that you did earlier in step 3 and you will see the records are still in the database.

You can create tabs by right-clicking on a tab and then selecting **New Tab** from the menu:
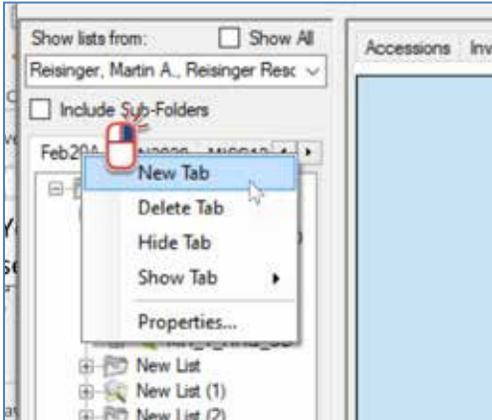
Use the **Properties** option to rename a tab.

7. Filter your current records

Right-clicking in a cell will enable you to show only records with the same contents. In this example, only *Rubus sp.* records will display.
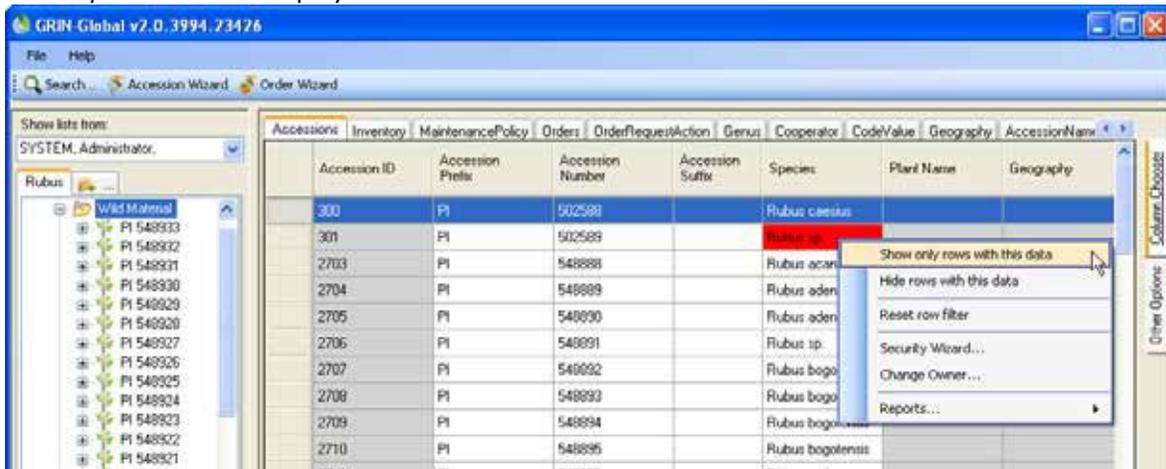

8. Create New Database Records

In this exercise, you will create a new accession record, using the Curator Tool's Accession Wizard. The Curator Tool User Guide's *Accession Wizard Overview* section has complete background information. The User Guide is available under **Documentation ➔ User Documents**.

The first step is to realize what folder is the active folder in the left list panel. You will be prompted to save an item in that folder for each new record you create.

Click on the **Accessions** tab to make it the active tab in the right datagrid. If it is, then click on the **Accession Wizard** button. The accession wizard displays its own window.
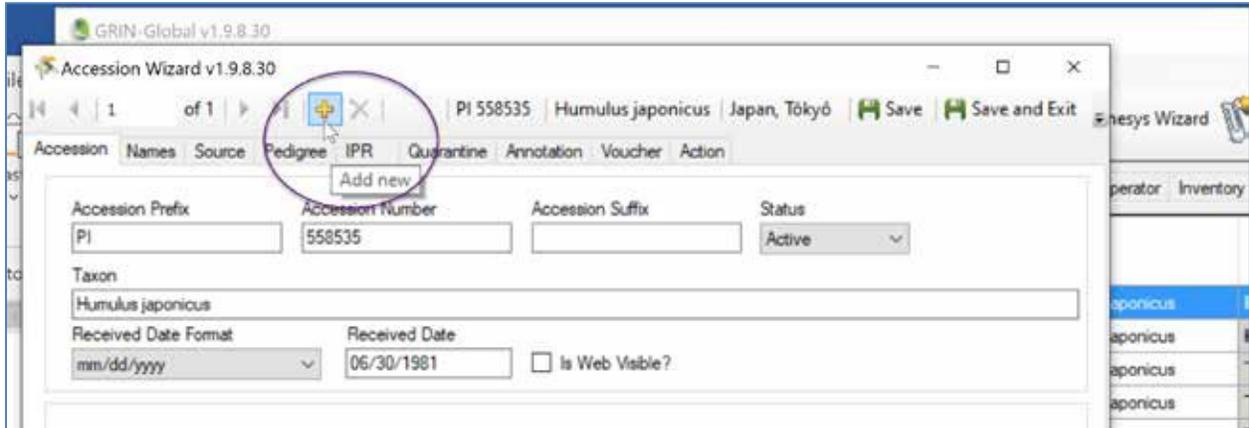
The gold "+" is **Add new** button. Click the **Add new** button to begin the inputting of a new accession.

Create your own data for the fields. Remember that you must provide data for required fields, such as **Prefix** and **Taxonomy** (**Species**) which are denoted by a pink color. You must select an existing Taxon from the list provided in the "Lookup Picker" popup window.)
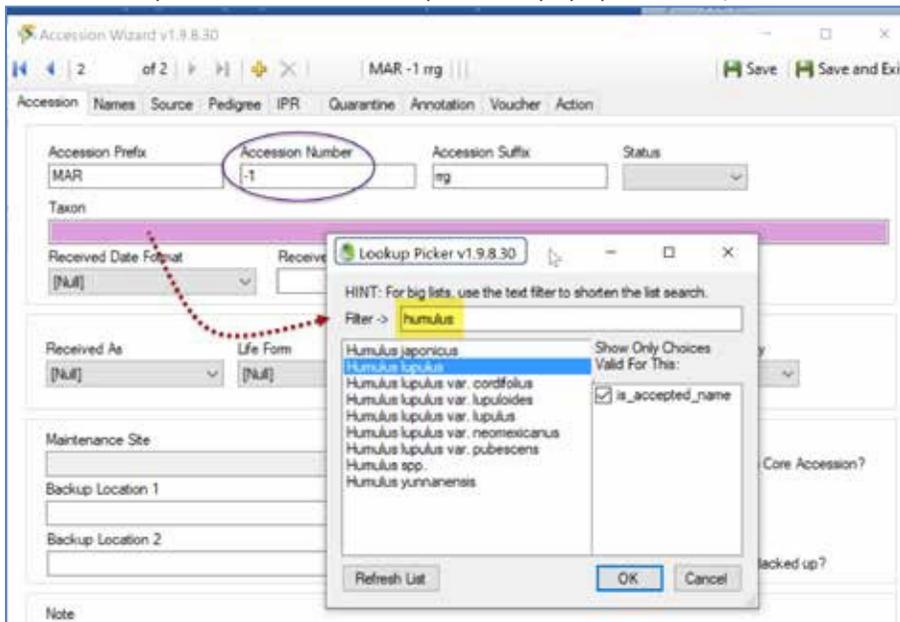
In the example above, the user inputted a *-1* in the Accession Number field. The -1 is a signal to the CT to increment to the next sequential number when the new record is created.

Practice! Fill in at least the first two screens (the **Accession** tab and the **Names** tab). Remember to use the **Save** button frequently. When you are finished, click the **Save and Exit** button in the upper right corner.

Each genebank organization has their own naming conventions. GRIN-Global was designed to be extremely flexible to accommodate these different naming conventions. You can use any or all of the Prefix, Number, and Suffix fields when naming an Accession. However, the combination of the three must be unique. The "accession identifier," consisting of this combination of the three fields, is a secondary key, which is used in various ways by the database. It also can be used in searches.

9. Explore Dataviews

(Before completing this step, consider reviewing the two sections on dataviews in the **Curator Tool User Guide**. [https://www.grin-global.org/docs/gg_curator_tool_user_guide.docx] An overview is in the *Database and GRIN-Global Basic Concepts* section; the steps for displaying dataviews are explained in the *Curator Tool Overview* section.)

Either right-click on an existing dataview tab or click on the new tab icon at the right of the existing tabs. In the **Data View Properties** window, rarely do you change the **Category** (Client). The **Area** dropdown box is often used, because the database uses different areas to store the dataviews. Until you become familiar with the database, you may find yourself looking around for the correct **Area** and **Dataview**. [The online dictionary is one help for this: see the google spreadsheet: https://docs.google.com/spreadsheets/d/1fG_KLTRX8lZypctXHGJjzPlHYagjDDeVEYQyPuswUzg/edit?hl=en&hl=en#gid=2 Consider downloading the google spreadsheet.) I generally copy the **Dataview** name to the **Dataview Tab Name** box without any changes, or I sometimes remove the word "Get" as shown below:
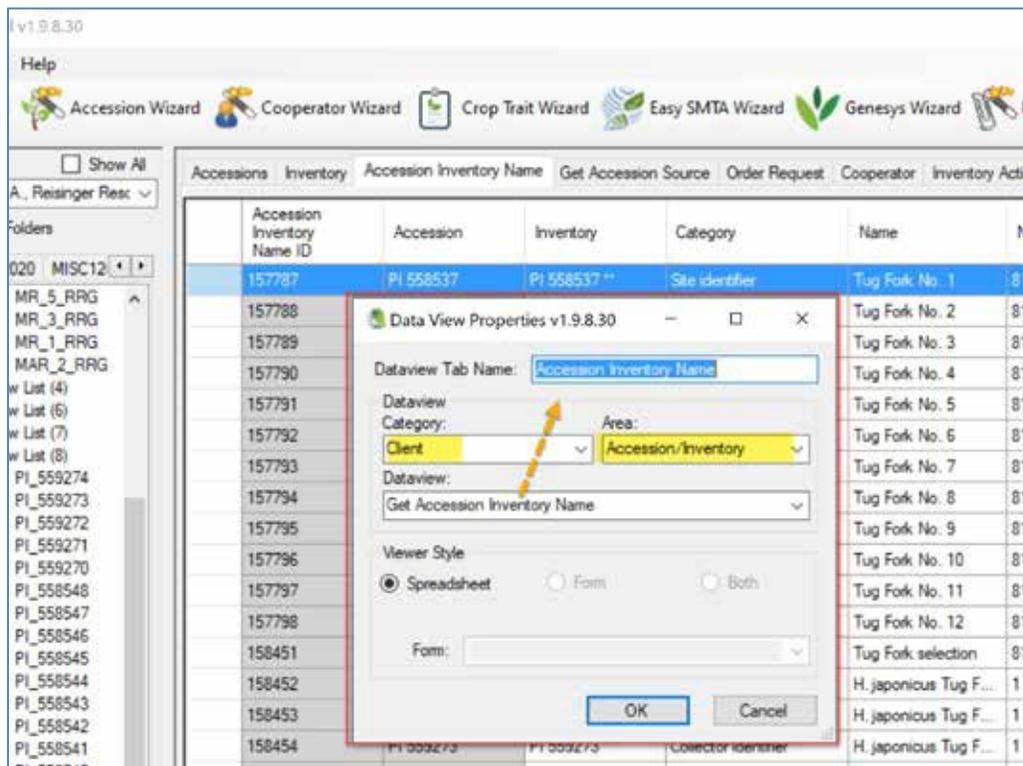
Practice! For practice, open at least one dataview whose tab is not visible in the data grid. For example, open the **Get Code Value** dataview.

What are these **Code Value** records? Many Curator Tool dataviews use dropdowns to assist the user in selecting a valid entry from a list of possible values. The items in the dataview dropdowns are stored in two related Code Group tables, one of which this **Get Code Value** dataview is accessing. What codes and data values are stored in the two Code Group tables? All kinds! (Each organization running GG can determine their own codes.)

The codes viewed in the **Get Code Values** dataview are codes used by the GRIN-Global software to restrict what data can be stored in specific fields.

Practice! Practice sorting the records. When you right-click on a column heading, a sort menu displays:

Note that users can sort by more than one column by repeating this action on multiple columns. Also, notice how the sorted columns will have sort directional indicators in their headings.

10. Practice additional searches

Practice! Practice other searches in the Search Tool and also dragging the records to a folder in the CT.

Examples:

a.   Search for records whose Inventory Type = SD (or SEED – depending on the database).

b.   Add to the query above … switch dataviews, and in the Origin QBE cell, specify Venezuela for the Origin. Use the wildcard % and type **vene%** (or try some other country)

c.   Repeat the search you did in "b," but start with the Accession dataview active; repeat the search with the Inventory dataview active.

d.   Clear the query. Add a new dataview: Geography (Area: Geographic). Select Venezuela

f.   Search for records whose Inventory Type <> '**' (Hint: edit the text in the large text box. for the Country QBE. Run the query; switch to the Accession dataview.

g.   Try several different searches using multiple criteria – in different QBE cells. Experiment with the two Matching options, Any Word and All Words, indicating OR and AND conditions.

Note: Be certain that the List of Items radio button is not selected when running QBE searches

h.   Try several different searches using multiple criteria – in the *same* QBE cells. To do that, each time you enter a criterion, click the Add to Query button.

i.   Internally a date is stored in the yyyy-mm-dd time... When searching, your search string in the QBE box needs to mimic the internally-stored version. For example, when searching for February records from 2010, enter the search string 2014-06% The query will return all June 2014 records. (Note: 2014% produces all records for the year 2014, and 2014%06%24% finds just June 24, 2014 records. Note that you must end the search string with a wildcard (%), because the date fields also store time in the field.)

Try using wildcards in at least one date search.