Rapid Data Entry (RDE)

Updated for BRAHMS 8.7.3, October 2025

For installation and upgrading: https://herbaria.plants.ox.ac.uk/bol/brahms/support/installv8

Training guide: https://herbaria.plants.ox.ac.uk/bol/content/software/v8/Getting_Started_BRAHMS.pdf

Demonstration database: https://herbaria.plants.ox.ac.uk/bol/brahms/support/conifers

BRAHMS © Copyright, University of Oxford, 2025. All Rights Reserved

For licensing enquiries, contact brahms@innovation.ox.ac.uk

For technical enquiries, contact brahms@biology.ox.ac.uk

http://herbaria.plants.ox.ac.uk/bol/brahms/software/v8

Contents

INTRODUCTION 4

RDE OR DATABASE? 4
PORTABLE AND FLEXIBLE 4
RDE FILE CATEGORIES AND NAMING PROTOCOLS 5

USER PERMISSIONS AND OPTION SETTINGS FOR RDE 6

USER PERMISSIONS 6
FILE CREATION 6
RDE TEMPLATE FOLDER 7
FORCE LOOKUPS FOR SELECTED FIELDS IN RDE 7

THE RDE FILE MANAGER AND RDE FOLDERS 8

INTRODUCTION 8
RDE FILE LIST 8
REGISTERING RDE FOLDERS 9
ASSIGNING USER ACCESS TO RDE FOLDERS 10

DESIGNING AND CREATING NEW RDE FILES 11

INTRODUCTION 11
CREATING RDE FILES USING THE WIZARD 11
CREATING RDE FILES FROM PRE-EXISTING TEMPLATES 12
COPYING/ RENAMING RDE FILES 12
DELETING RDE FILES 12

EDITING DATA IN RDE FILES 13

OPENING RDE FILES 13
OPTIMISING DATA ENTRY 13
QUICK DATA SELECTOR TOOL 13
USING SQL SCRIPTS TO POPULATE RDE FILES 14

IMPORTING TO RDE FROM EXCEL (XLSX) 15

INTRODUCTION 15
EXCEL TO RDE FIELD MATCHING 15
MATCH/UPDATE FROM XLSX 16

ADDING IMAGES TO RDE FILES 17

MANUALLY LINKING IMAGES 17
CREATING RDE RECORDS USING A LIST OF IMAGES 17
ADDING IMAGES TO EXISTING RDE RECORDS 17

TRANSFERRING DATA FROM RDE TO BRAHMS 18

INTRODUCTION 18
BATCH IMPORTS 18
IMPORTING TAGGED RECORDS 18
CUSTOM FIELDS 19
IMPORT ANALYSIS 19
TRANSFER OF DATA TO BRAHMS 20

REVIEWING ANALYSIS/IMPORT DETAILS 21

INTRODUCTION 21
SUMMARY OF ANALYSIS/IMPORT 21
CONSULT DETAILED LOG FILES 21
DELETING ANALYSIS/IMPORT LOG FILES 21

SPECIAL CONSIDERATIONS 22

RDE FILES FOR COLLECTION EVENTS AND PRESERVED SPECIMENS 22

Specimen RDE form 22

Collection Match Tool 22

Match criteria when importing 23

Specimens and the Institute code 23

Adding multiple specimens per collection event 23

Adding multiple determinations per specimen 23

Force new collection (CE) event 24

Force use existing collection event 24

RDE FILES FOR LIVING COLLECTIONS 25

Introduction 25

Rules for accession and plant numbering in RDE files 25

Adding Garden code/name to your RDE file 25

RDE EXAMPLE MAPPING DATA POINTS 26

Introduction

While data can be entered directly into BRAHMS, RDE is recommended for entering larger numbers of records and also as a first step when importing or transferring data from other software packages such as Excel.

RDE files are created for particular tasks. For example, for logging data from a field trip, entering data for selected specimens, migrating data from xlsx, gathering data for a botanic garden inventory, *etc.*

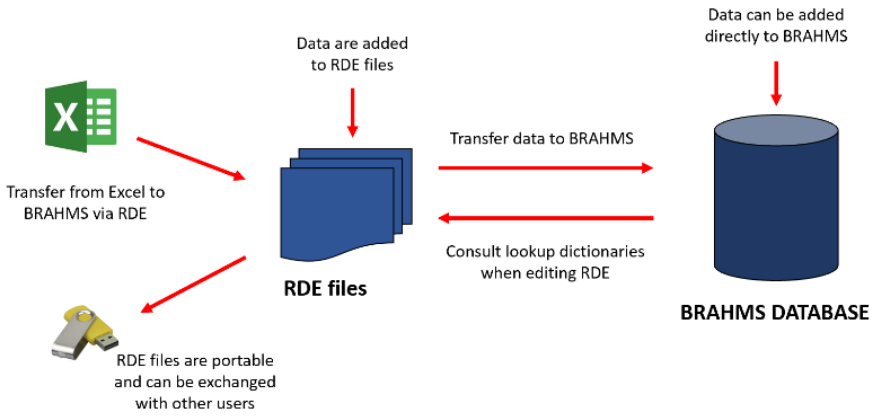
RDE files lie outside of BRAHMS but they are registered in a special manager from where you can open the files and edit the data. You can also consult data inside BRAHMS to avoid unnecessary typing.

Broadly speaking, RDE files have the same functionality as your main database files. You can use RDE to create summaries, maps, reports, manage images, and in general, use most of the standard BRAHMS tools and functions.

RDE is an essential tool for those entering a lot of new data records.

RDE or database?

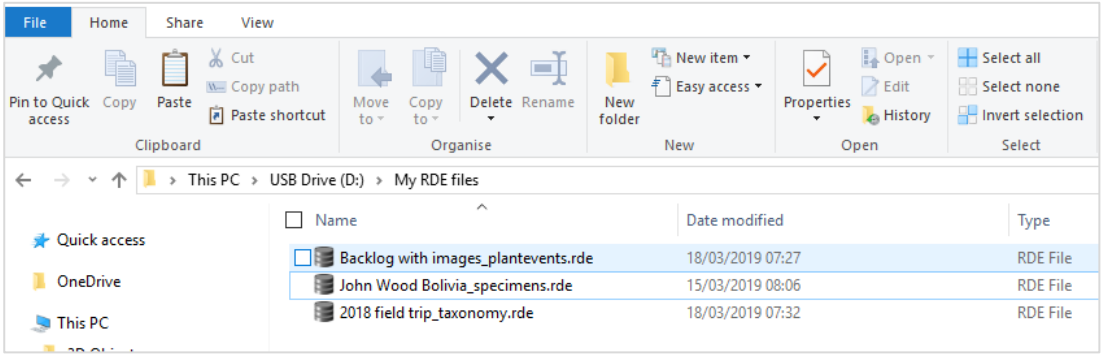
RDE files are rather like smart Excel spreadsheets with BRAHMS features. A series of separate RDE files does not constitute a database. Data held in separate RDE files cannot be combined for reporting or mapping - unless the RDE files are merged into a single large file – a process which is possible but inefficient for long term data management. Most projects gather or add data to RDE files – and then transfer these files into their database.



RDE is perhaps the most widely used BRAHMS component and databases are often built through the importing of different RDE files.

Portable and flexible

RDE data are stored in portable mini-SQLite databases comprising several related tables. Each RDE file consists of only a single physical file. RDE files are completely portable. They can be copied to any PC and/or exchanged with other users. You can store them on memory sticks and open the file(s) from there or from any BRAHMS database.



An example of 3 RDE files stored on a USB drive.

RDE file categories and naming protocols

RDE files are available for different categories of data. RDE files **must** have the correct file name protocols/extensions – otherwise they will not be visible in your RDE File Manager. All RDE files have your file title followed by '_' + the file category + '.RDE' as listed below.

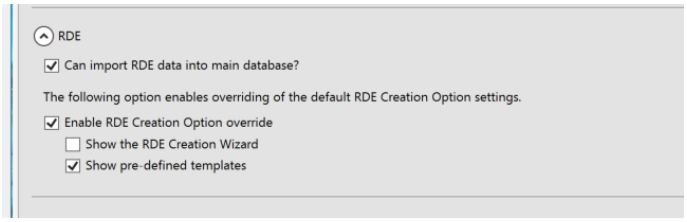
RDE file category	Used for entering or transferring	File name ending protocol*
Gazetteer	Geographic data only – names of places.	_gazetteer.rde
Taxonomy	Taxonomic data only – names of all taxonomic ranks.	_taxonomy.rde
Common names	Common names with all their meta data, linking to taxa and optionally to collection events.	_commonnames.rde
Taxa descriptions	Descriptive texts of any category to link to taxa.	_taxondescriptions.rde
Specimens	Collection events and optionally their specimens including taxonomy, geographic data.	_specimens.rde
Specimen determinations	Determinations (annotations) for specimens that are located using barcode or accession number.	_specimendets.rde
Observations	Observations – collection events only. Note that observations can be added to specimen files leaving the physical specimen related fields blank.	_observations.rde
Living Collections	Botanic garden accessions, their wild origin if known plus extra fields for plant records derived from the accessions.	_livingcollections.rde
Plant Events	Data added to living collection plant events.	_plantevents.rde
Seed Accessions	Seed accession data including wild origin if known.	_seedaccessions.rde
Plant Events	Botanic garden plant events – things that happen to plants over time, observations, inventory, checking, *etc.*	
Entities	Plant Entity details.	_entities.rde
Entity Descriptions	Plant Entity descriptive texts.	_entitydescriptions.rde
Entity Names	Adding plant entity name links.	_entitynames.rde
RSO requests	Requests Scheduling and Ordering for garden plants.	_rsorequests.rde
Literature	References for books, journals etc.	_literature.rde

User permissions and option settings for RDE

Early on, it's worth checking the user permissions and setup options associated with RDE. Most users are given access to RDE although it is possible to restrict this. It is also possible to restrict a use's ability to import RDE files into BRAHMS. On networked systems, that role is often assigned to one or more users with special responsibilities to check the RDE data prior to transfer to BRAHMS.

User Permissions

With **User System > Manage Users & Permissions > Access/Permissions > Specific Actions**, you can set the permissions for individual users to import RDE to BRAHMS and the ability to access the RDE file creation wizard and/or template selection only (see below for explanations).



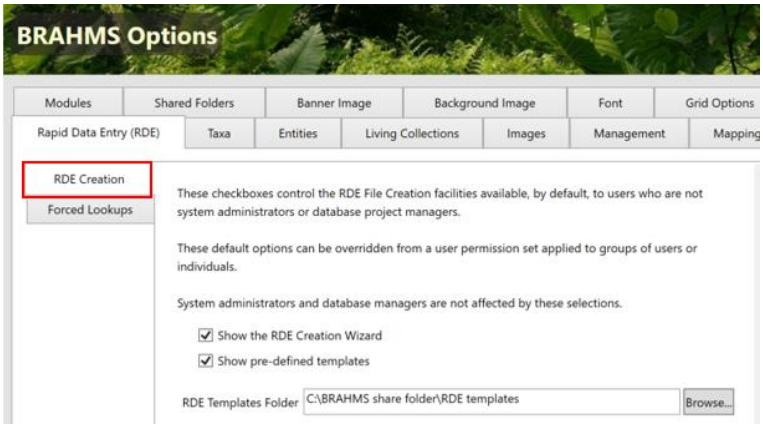
Showing part of the Specific Actions tab when editing user permissions. This user can import data into BRAHMS. But the user can only access RDE templates that have already been designed and made available. The user is unable to use the RDE Create Wizard to make new file structures.

File creation

Under **System > Options > Rapid Data Entry (RDE) > RDE Creation**, you can choose which RDE file create options are available to all non-admin users by default:

a) RDE file creation Wizard which provides access to the file designer/column manager
b) Select from pre-defined project templates.
c) Both of these options.

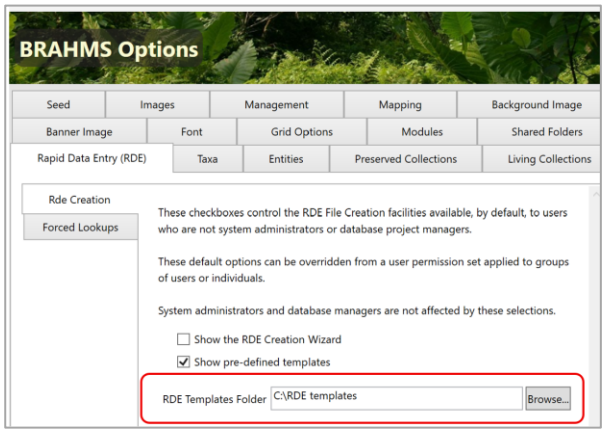
In addition, by setting user-level permissions, you can fine-tune which users have access to the available options. Note that Admin users always have access to both the Wizard and pre-defined templates. If mostly, you want standard users to only use pre-defined templates, de-select **Show the RDE Creation Wizard** here and then you can override that for particular users as needed in the user permission settings.



Setting up RDE file creation options.

The RDE Templates Folder should be a shared folder that all users who are creating new RDE files (using the templates option) have access to. You can add all your RDE template files into this folder.

RDE template folder

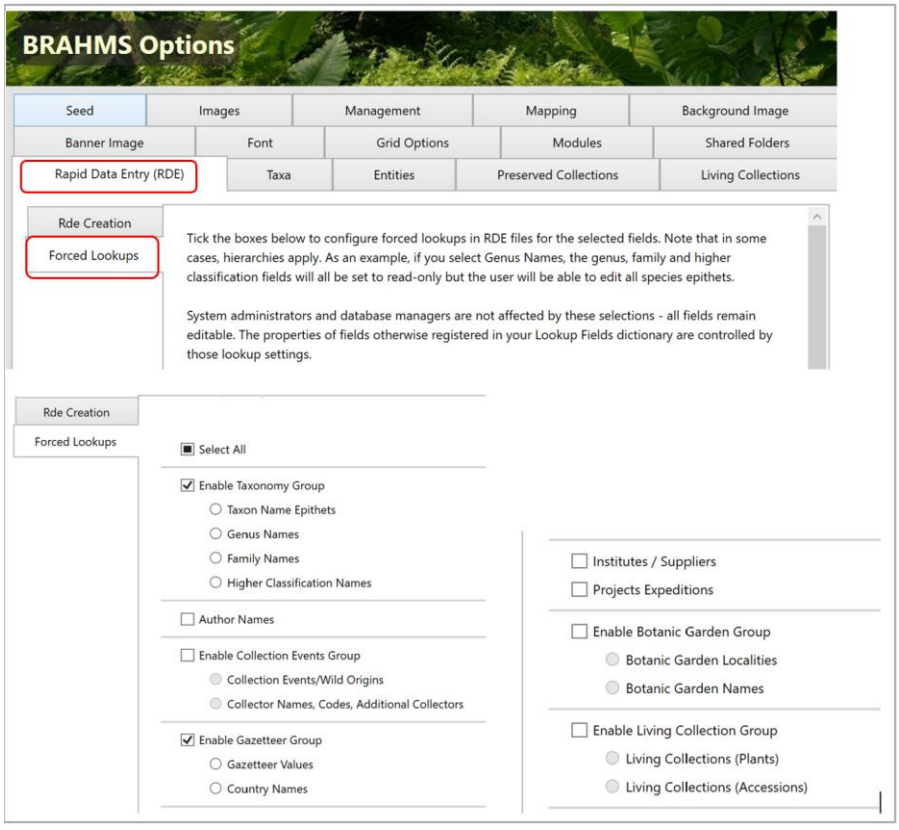


Choose a shared folder to store any RDE template files.

Force lookups for selected fields in RDE

To prevent users adding incorrect entries to RDE fields, you can enforce lookups for certain fields and field groups. To do this, select **System > Options > Rapid Data Entry > Forced Lookups**. Here you can select a data group *e.g.* Taxonomy Group and within that group, enforce lookups to the level you wish. For example, you may allow free text entry for specific epithets – but not for family/genus names. Similar options apply to other categories of data. Settings apply to all users.

As an example, if you enable Taxonomy Group and select Genus Names, this means that genus names or higher rank cannot be freely edited. However, species epithets can be freely added. If you select Taxon Name Epithets, the user would be unable to freely enter any species level text – they would have to use a lookup.

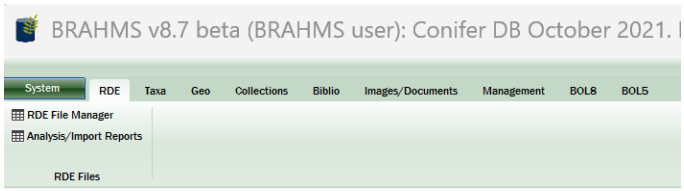


Forced lookup settings. With the above settings, a user could freely add new species and place names but not family, genus and country names. The other groups shown here have not been restricted.

The RDE File Manager and RDE Folders

Introduction

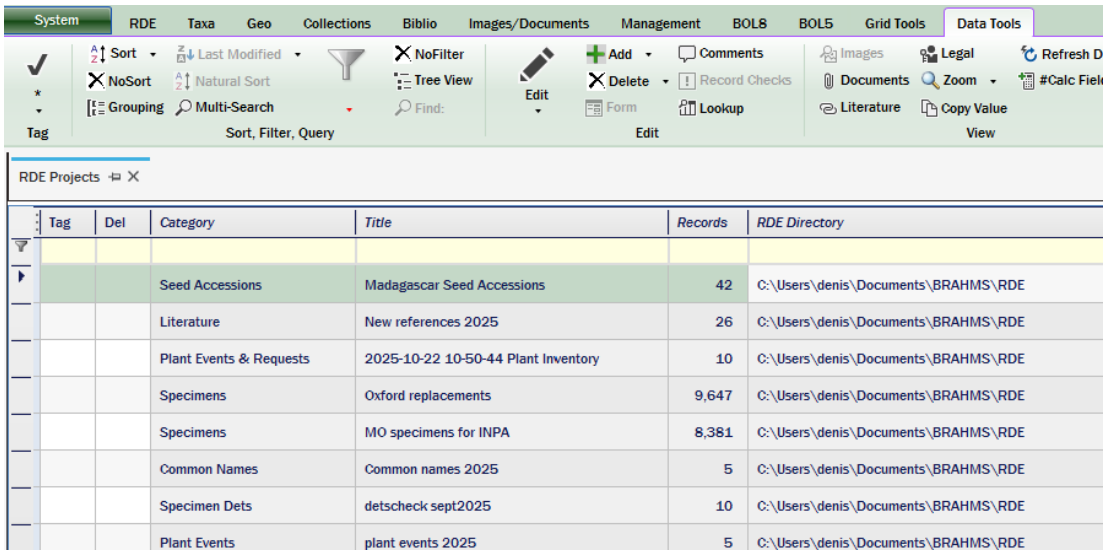
The option **RDE > RDE File Manager** opens the RDE file manager. This table lists all the RDE files that you have access to. This will include files in your default storage folder Documents\BRAHMS\RDE and files in other RDE folders that may have been registered and that you have access to. You may have access to RDE files created by other users on your network.



The RDE menu includes the Manager and the Analysis options.

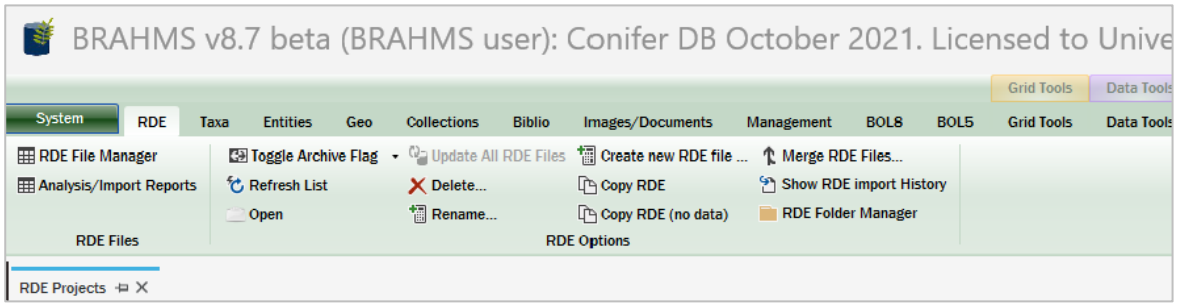
RDE file list

When you open the RDE Manager, correctly registered RDE files are listed in a data grid. The entries in this grid are updated automatically when you add or remove RDE files from your registered RDE folder(s).



A sample RDE Manager screen showing various categories of RDE files

If working in a larger museum, your project may have numerous RDE files stored across different folders each of these with different access permissions.



Manager option	What it does
Toggle Archive Flag	Set Is Archived true/false
Hide archived files	Do not list archived files
Refresh List	Force update RDE list from your BRAHMS/RDE folder
Open	Open RDE file to view/edit (or double-click the file name in the manager)
Delete	Physically delete an RDE file
Edit	Edit details about the RDE file (meta data)
Copy RDE (no data)	Make a copy of an RDE file but with no data
Copy RDE	Make a copy of an RDE file including all the data
Create RDE	Create a new RDE file of a selected category
Show RDE import History	Shows a summary of the imported data including failed record imports
RDE Folder Manager	As discussed below

RDE Manager tools explained

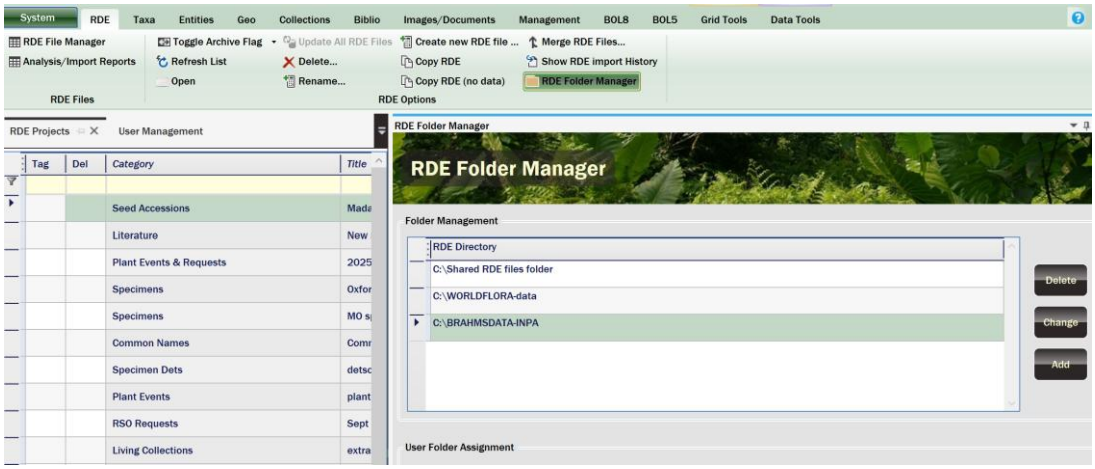
Registering RDE folders

For single user (typically research databases), you can store all your RDE files in the default location (Documents\BRAHMS\RDE). However, you may want to store your RDE files in more than one folder location. You will need to register these RDE folders in the RDE Folder Manager. As you will be the database administrator, you will not need to be assigned access to these folders as that will be automatic.

On institutional networks with many users, there may be many folders for RDE files, perhaps one per user. It is the responsibility of the Admin user to register RDE folders and assign access to these.

Open the **RDE Folder Manager** using the option provided on the RDE toolbar.





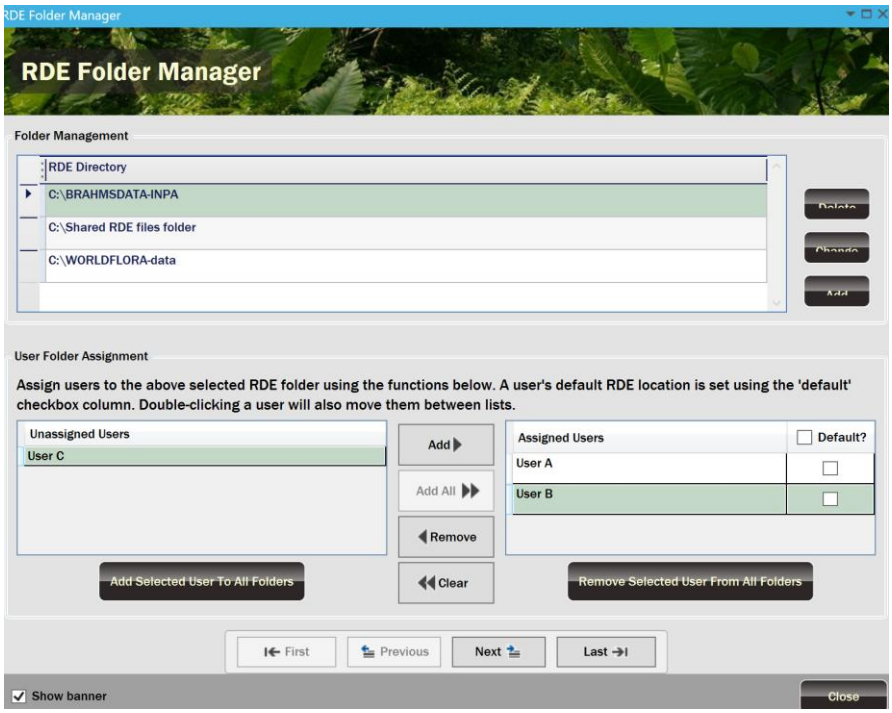
Registering RDE folders

RDE files can be stored in any registered folder. Clearly, these folders must be accessible to you or on your network. New folders are added using the **Add** option. Folders can use UNC paths or drive letters. Only project/database administrators have access to the folder management options. Administrators can also assign access permissions to one or more non-admin level users (see below).

NB. The **RDE Folder Manager** is only accessible to Admin and/or project managers.

Assigning user access to RDE folders

By default, all users have access to their personal Documents\BRAHMS\RDE folder and this is where all RDE files are created and stored unless further RDE folders are added. For non-Admin users to have access to RDE folders other than their personal Documents, they must be given access/permission to the extra folder(s). A given user may be assigned access to multiple folders.



Non-admin/manager users are listed on the left and can be Added to the Assigned Uses list on the right. In this example, USER A and USER B have been access to the folder C:\BRAHMSDATA\INPA.

Designing and creating new RDE files

Introduction

Designing and creating new, empty RDE files with the correct field structure is a key aspect of the data capture process for many projects. This section explains how to create new RDE files with the optimal design for different RDE data categories.

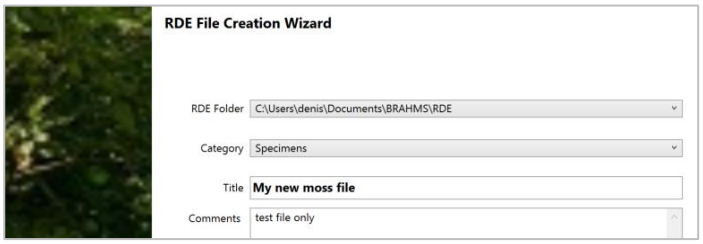
RDE files always have a full set of standard fields. Optimising RDE file design is related to setting field order and visibility. You may also add non-standard fields. Each category of RDE (specimens, living collections, seed accessions, *etc.*) has its own field structure. Many fields are common to all file categories.

You might spend some time designing the "ideal RDE" for your project – and then save this as a project template (see below).

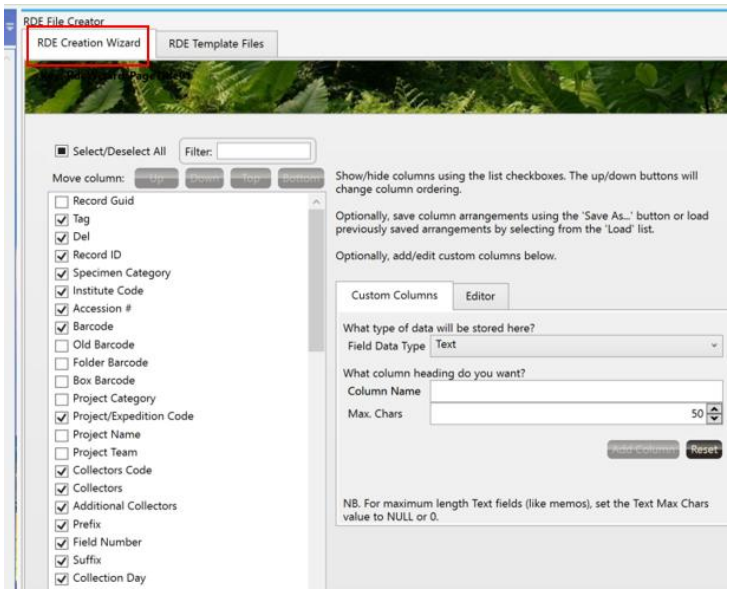
You can restrict the ability of non-admin users to design files using the design Wizard – forcing them to use a standard project template.

Creating RDE files using the Wizard

A user that has appropriate permissions can design new RDE file templates using the RDE Create Wizard. After choosing the category of RDE data, the fields to include can be selected from the standard RDE field list. Custom fields can also be added if needed.



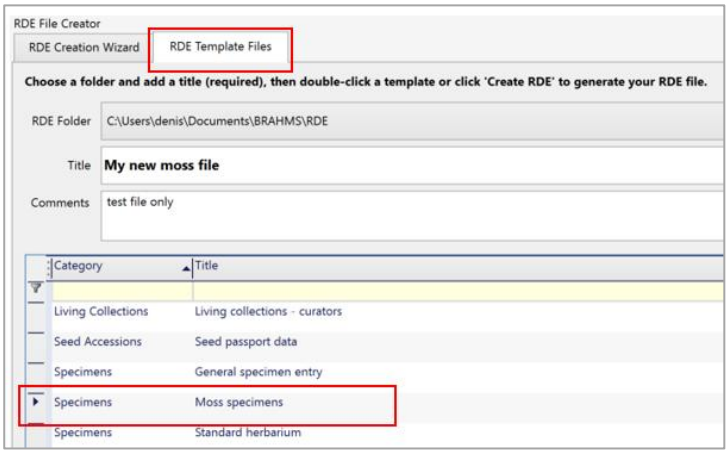
You must first select an RDE file category and name. The RDE file will be created in the designated RDE folder.



The RDE file Create Wizard allows you to select any fields from the list provided – also to add custom fields. The new file is given a name and saved to a registered RDE folder.

Creating RDE files from pre-existing templates

This option can be used if you have copied one or more RDE files (normally with no data) to your registered RDE Templates folder. This folder has to be specified as described above in the setup section.



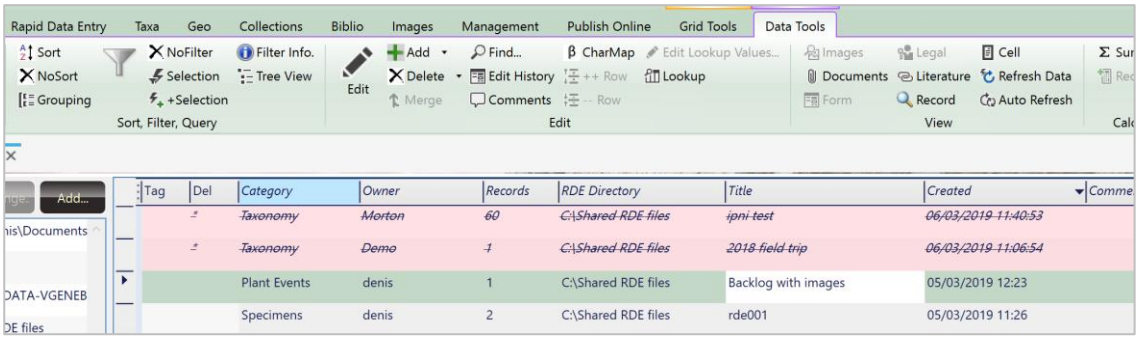
A user with no access to the Wizard will have to choose one of the pre-designed RDE templates available in the list. All RDE files stored in the designated RDE templates folder (see above) will be listed here. Note that the new RDE file created from the template RDE file will be created in the designated RDE folder. The folders a user has access to are discussed in the section on access to RDE folders.

Copying/ Renaming RDE files

You can copy an RDE file with or without data and also rename RDE files. Additions or changes made here will be updated in your RDE manager list.

Deleting RDE files

If an RDE file is deleted from your computer, it will auto-disappear from the manager list. If you use the BRAHMS delete option in the data grid, this will also delete the physical file from your computer.

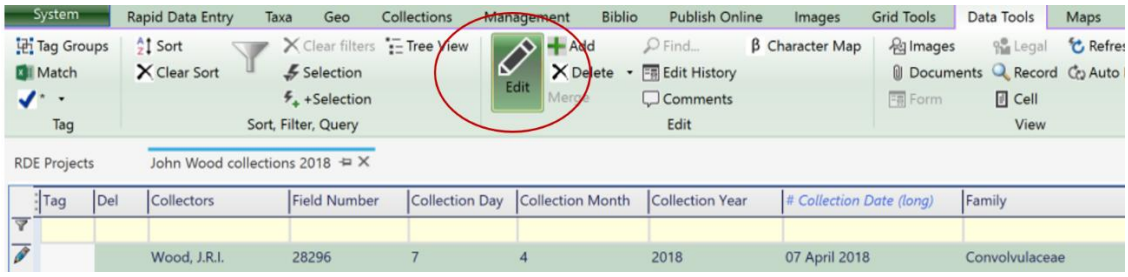


RDE files can be deleted using the standard two-step delete function. But you can also delete the file from your PC using your file manager. RDE files moved to a non-registered folder will not be listed in the manager.

Editing data in RDE files

Opening RDE files

To open any RDE file, double-click on the file name or use the **Open** option on the RDE toolbar. As with all other tables, you need to switch to **Edit** mode to be able to edit the data.



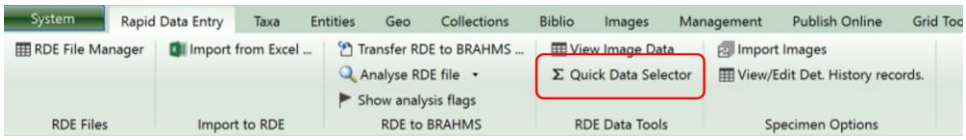
In Edit mode, all data in the RDE file can be edited. Use the Edit History option to view and optionally undo any edits.

Optimising data entry

The following points can be considered to optimise data entry in RDE files:

- Ensure that the visible fields and their order in the file is optimal for your project.
- RDE is more efficient when you can use lookups. If your database has good dictionaries of species, geographic and collector names – together with other custom lookups, data entry will be faster and more reliable. With good lookups, you are then in a position to force selection for a defined list or allow the data entry person to add new entries.
- Use F4 to copy the last field and Ctrl+F4 to copy an entire record. In general, learn to use the short cut keys provided in Shift+F1.
- Learn to use Find/Replace tool on the Edit dropdown. Using this, you can add standard values (e.g. a specimen category, collector or country name) to entire columns in seconds.
- The Quick Value Selection Tool is a handy tool in RDE. This tool lists all the values in the current RDE file for the current column allowing rapid selection of a value. The tool window can be configured in a number of ways to speed up data selection.
- If adding map data, open the ArcGIS map window (ideally on a separate monitor) to see your map data dynamically update and easily check for map point errors.

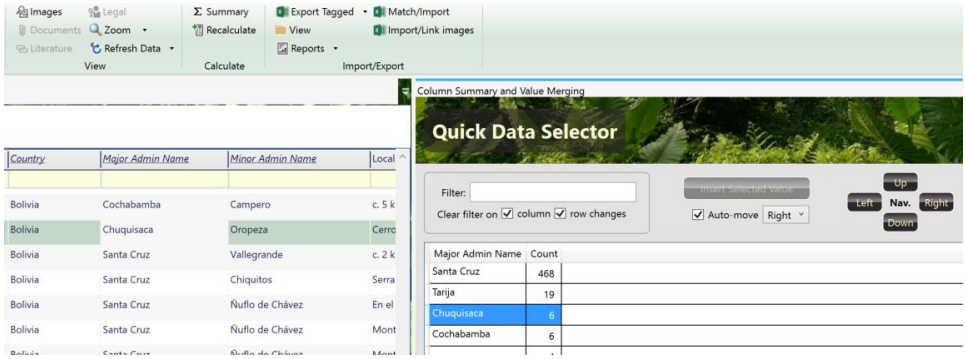
Quick Data Selector Tool



When you are in an opened RDE file which already has data added, you can use the **Quick Data Selector** tool to help add or update data values in the file. This tool, once you become familiar with the various settings, can be very useful.

Once opened, and you are in **Edit mode**, the tool lists all values in the currently selected column. These values are only listed from the current RDE file, not the main database.

- The Filter option on the Data Selector is used to locate the required value.
- Double-click on a value adds the value to the RDE field.
- Set the Clear filter option to clear filter when you move column/row.
- Auto-move to the next field or row after making a selection.



The Quick Data Selector tool can make working in RDE files more efficient. The data values listed auto-update as you move columns.

Using SQL scripts to populate RDE files

For users who can write SQL statements, it is possible to generate scripts to add data to your RDE files. This is especially useful when adding a large number of records. You need to be able to somehow generate insert statements in large numbers, perhaps using software you are familiar with. You can in fact easily generate insert statements from xlsx files.

The scripts would be executed in the free software DB Browser for SQLite (see https://sqlitebrowser.org). This can be used to open an empty RDE file that you have created in BRAHMS.

The following is an example that is used to populate a living collection RDE with 2 records (after ensuring the RDE table is empty). The table rdelivingcollectionrecords is the main table in the RDE file for living collections.

delete from rdelivingcollectionrecords;

Insert into rdelivingcollectionrecords(familyname, genusname, speciesname, subspecies, variety, forma, cultivar, descriptor, accession, receivedastaxon, quantity, receivedday, receivedmonth, receivedyear, suppliedas, accessioncontainer, receivedsize, donornote, provenancetype, countryname, majoradminname, minoradminname, localitynotes, habitattext, collectors, collectornumber, collectionstrategyjustification, comments, soildescription, additionalcollectors, geology, descriptiontext, calcrestrictioncategory, databaseprojectid, id, recordid, rdedescriptionid, grex, collectionday, collectionmonth, collectionyear, livingaccessiondonor) Values ('LYCOPODIACEAE', 'LYCOPODIUM', 'carinatum', null, null, null, null, null, '132/81/1', 'Lycopodium carinatum', '3', 15, 12, 1991, 'PT', null, null, null, null, null, null, null, null, null, null, null, 'E Java oe Kalimantan', null, null, null, null, null, '2e55d572-798e-467d-882b-b1295fa2fc2c', 'bec4b0c8-17ea-4b36-a246-5b3e1863bf1a', 1, 1, null, null, null, null, null);

Insert into rdelivingcollectionrecords(familyname, genusname, speciesname, subspecies, variety, forma, cultivar, descriptor, accession, receivedastaxon, quantity, receivedday, receivedmonth, receivedyear, suppliedas, accessioncontainer, receivedsize, donornote, provenancetype, countryname, majoradminname, minoradminname, localitynotes, habitattext, collectors, collectornumber, collectionstrategyjustification, comments, soildescription, additionalcollectors, geology, descriptiontext, calcrestrictioncategory, databaseprojectid, id, recordid, rdedescriptionid, grex, collectionday, collectionmonth, collectionyear, livingaccessiondonor) Values ('CACTACEAE', 'LEMAIREOCEREUS', 'thurberi', null, null, null, null, null, '116/75/13', 'Lemaireocereus thurberii', '4', 14, 11, 1975, 'PT', null, '2e55d572-798e-467d-882b-b1295fa2fc2c', 'f74ec6ec-cb01-4b36-9bb6-da1f796518d6', 2, 1, null, null, null, null, 'Wed. P. Eveleens en Zonen B.V.');

The BRAHMS project uses scripts like these to migrate data from other systems. A single script may include many 1000's of insert statements.

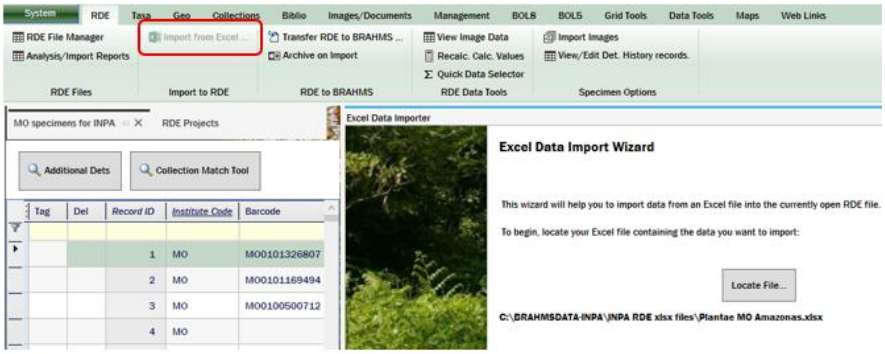
For further details about script generation and use, please contact the BRAHMS project.

Importing to RDE from Excel (xlsx)

Introduction

Video: https://herbaria.plants.ox.ac.uk/bol/brahms/software/v8videos#lcexceltorde

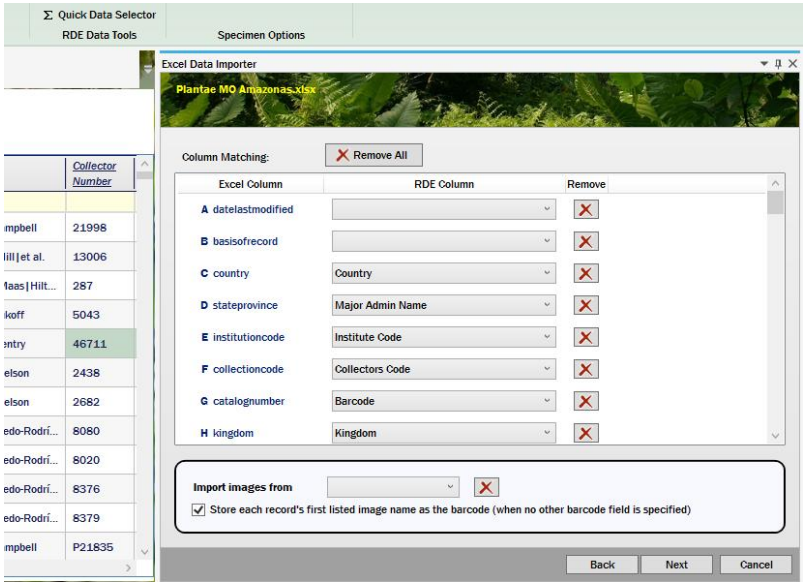
Data and images can be imported from .xlsx tables into RDE using the *Excel Data Import Wizard*. This tool allows you to locate and open an Excel .xlsx file, then match the columns in the file to your opened RDE file. This is a key function used for migrating data into BRAHMS.



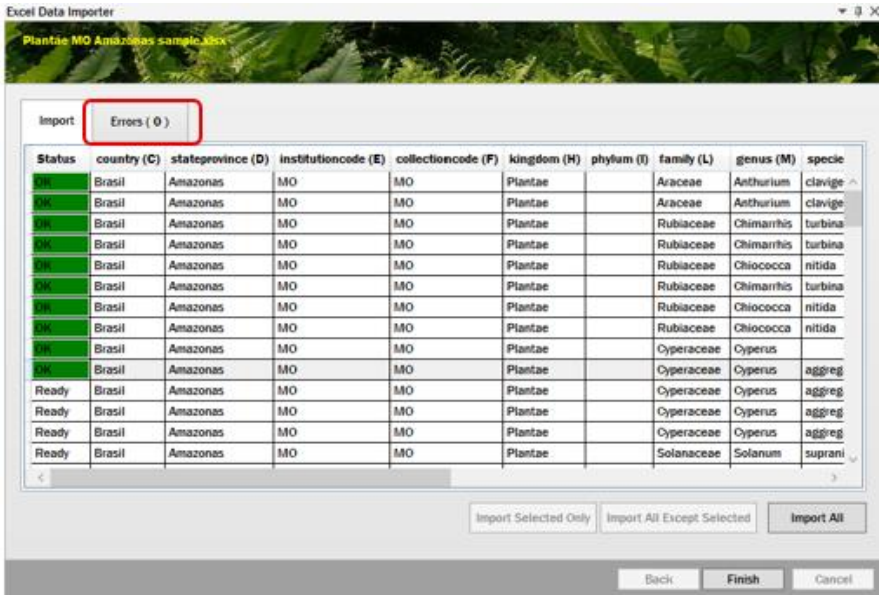
Using the RDE toolbar option Import form Excel, step 1 is to locate the xlsx file to import.

Excel to RDE field matching

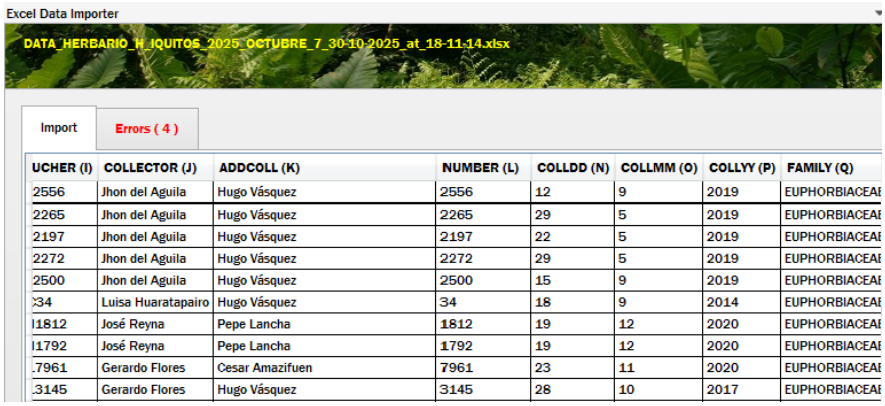
The matching between Excel and RDE columns can be adjusted as necessary to pull in as many fields as possible. This process also allows you to import data from custom fields – assuming the custom fields have been added to your RDE file. It also means that field names in foreign languages can be mapped to the standard names. For example, you may have a field in Excel with the column heading 'Decimal Latitude' that you want to go to the standard BRAHMS field 'Latitude'. Or you may have a field in a different language such as the Portuguese 'País' or the Chinese '国 家' that you want to map to the BRAHMS column 'Country'. The process of field matching is described in the section on Excel to BRAHMS field matching.



The above screen shows the field matching process.



The importer will list any import errors on the Errors tab.



UCHER (I)	COLLECTOR (J)	ADDCOLL (K)	NUMBER (L)	COLLDD (N)	COLLMM (O)	COLLYY (P)	FAMILY (Q)
2556	Jhon del Aguila	Hugo Vásquez	2556	12	9	2019	EUPHORBIACEAE
2265	Jhon del Aguila	Hugo Vásquez	2265	29	5	2019	EUPHORBIACEAE
2197	Jhon del Aguila	Hugo Vásquez	2197	22	5	2019	EUPHORBIACEAE
2272	Jhon del Aguila	Hugo Vásquez	2272	29	5	2019	EUPHORBIACEAE
2500	Jhon del Aguila	Hugo Vásquez	2500	15	9	2019	EUPHORBIACEAE
34	Luisa Huaratapairo	Hugo Vásquez	34	18	9	2014	EUPHORBIACEAE
1812	José Reyna	Pepe Lancha	1812	19	12	2020	EUPHORBIACEAE
1792	José Reyna	Pepe Lancha	1792	19	12	2020	EUPHORBIACEAE
7961	Gerardo Flores	Cesar Amazifuen	7961	23	11	2020	EUPHORBIACEAE
3145	Gerardo Flores	Hugo Vásquez	3145	28	10	2017	EUPHORBIACEAE

An example showing some import issues. You can swap to the Errors tab to check while the import continues.

Match/Update from xlsx

As well as appending data to RDE using the above procedures, you can also add data to existing RDE records using the Match/Transfer function. This would be used to add data from xlsx to an RDE file with existing data, matching on one or more data fields. As long as you can match the records in RDE to those in the Excel file, you can do the Match/Update tool as documented in the main guide Fundamentals section.

Adding images to RDE files

There are 3 ways to add images to your RDE file:

Manually linking images

You can add one to many images to each record in your RDE file. In Edit mode, images can be dragged onto the standard image viewer.

Creating RDE records using a list of images

The RDE toolbar option **Import Images** will add a new blank record for each image in the selected folder, linking one image per new record. This option also enables you to fill in the specimen barcode field based on the image file name. This option is especially useful if you are planning to enter the data directly from the images.

Adding images to existing RDE records

You can select the standard Data Tools option **Import/Link images** to add images to existing RDE records by matching data from on 1 or more RDE fields to a list of images held in an xlsx file. Your xlsx file may have a barcode or a combination of fields (e.g. collector, number, date).

Transferring data from RDE to BRAHMS

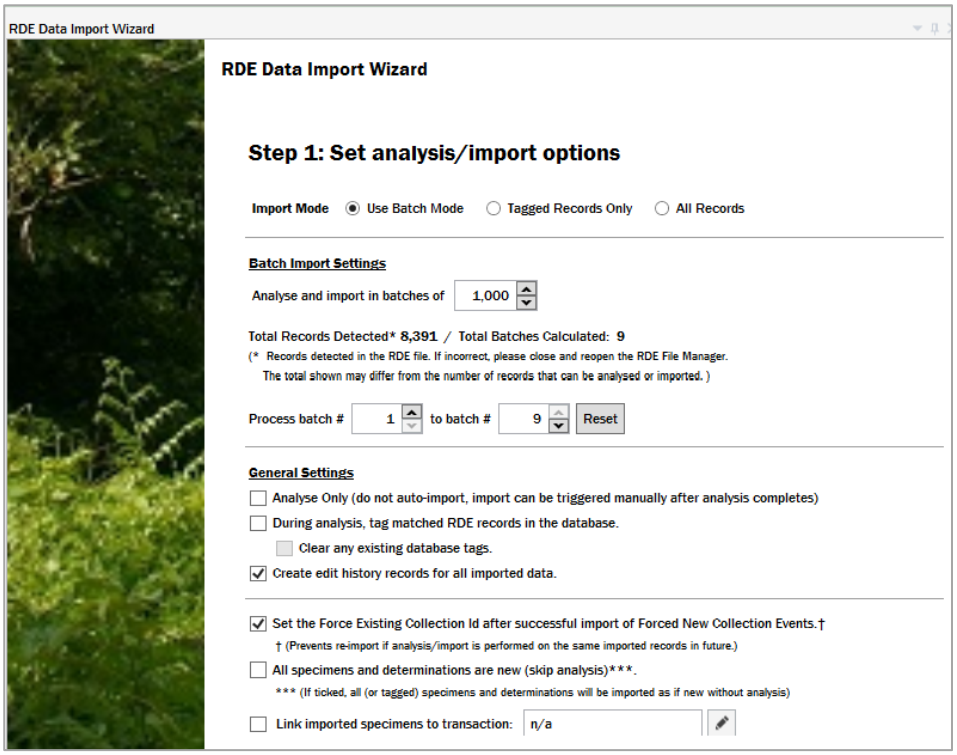
Introduction

When ready, you can transfer your RDE file(s) into BRAHMS. The importer analyses your RDE data carefully, checking what may already exist in your database and what is new. This analysis phase is critical to the import process. It provides you with the opportunity to review the RDE data before deciding to proceed to import. For example, the analysis phase may report that you have new family or country names. These may be new names – but they may also be variations on name format or spelling which you would want to correct prior to import. The process of analysis/import is broadly the same for all categories of RDE file although in some cases, there are some extra options.

Batch imports

The default import mode is to transfer the data in batches. The default batch size is set to 1000. If your RDE file has 5000 records, the data are imported in 5 batches. If your RDE file has 25 records, a single batch will clearly import all the data – no need to adjust the batch to 25. You can however adjust the batch size – and when you do, the number of batches is updated accordingly. For example, with 5000 records, if you opt for a batch size of 100, there will be 50 batches. Most PCs are easily able to import the larger batch size of 1000 – but you may find reducing batch size is more convenient. Bear in mind, aside from data migrations, most RDE files have far less that 1000 records.

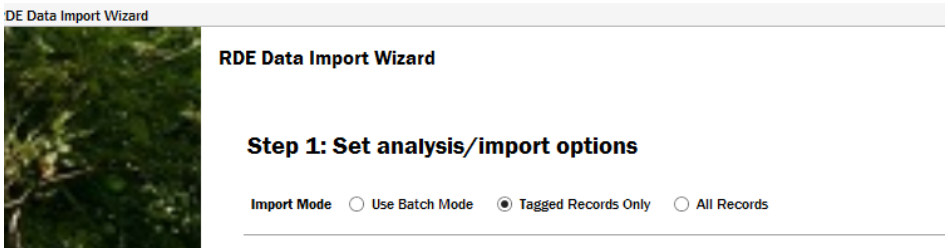
When you import in batches, BRAHMS will analyse the first batch and then import it. Then proceed to the next batches. At any point you can pause the process and/or simply switch to review the analysis/import report.



Note that when using batch importing, you can restrict the import to tagged records.

Importing tagged records

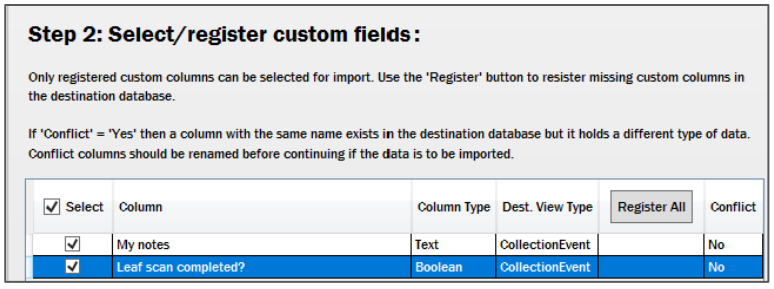
Rather than importing in batches, you can opt to import tagged records. The analysis and import process is the same as for batches except it restricts the process to tagged records.



Using this setting, only tagged records will be imported regardless of which batch they would have been in.

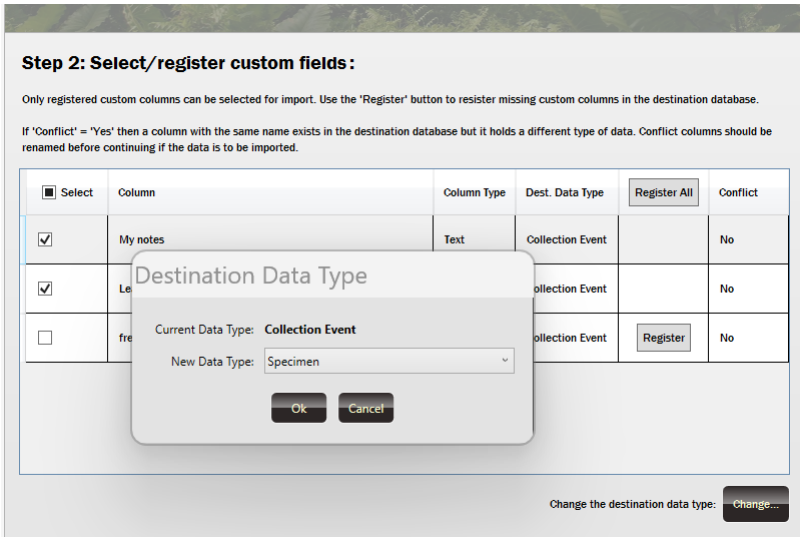
Custom fields

Prior to the analysis of the RDE data, checks are made on any custom fields in your RDE file. If there are custom fields (non-standard fields) that have not been registered in your database, you can register these now. If you do not, data stored in these custom fields will not be imported.



By default, custom field data are transferred to the main target table in BRAHMS. However, you can adjust the target table in the following cases:

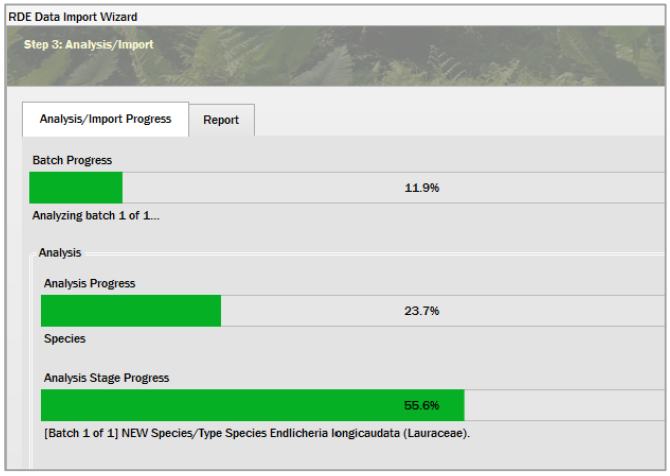
- For Specimen RDE files, the default table is Collection Events. However, you can adjust 1 or more of your custom fields to be added to the Specimen table.
- For Living Collection RDE files, the default table is Accessions. However, you can adjust 1 or more of your custom fields to be added to the Plants table.



The above screen shows how you can change the destination table for the selected custom field.

Import analysis

RDE file 'analysis' refers to the process of quality control, allowing you to assess data in your RDE file that are new to BRAHMS. The analysis applies to all categories of data that are being imported, examples being family, genus, species, country/place names, collections etc. The checks made depend on the category of RDE file you are working with.



The analysis phase reports on progress. At any stage, you can select the Report tab to review the developing results.

Analysis/Import Progress | Report

Batch	Category	Stage	Result	RDE Id	Item Summary	RDE Matches	#Db Mat
1	Analysis	Higher Classifications	Exists	7061	K:Plantae (Bignoniaceae)	27	11
1	Analysis	Higher Classifications	Exists	7069	K:Plantae (Fabaceae)	350	1
1	Analysis	Higher Classifications	Exists	6971	K:Plantae (Lauraceae)	97	11
1	Analysis	Higher Classifications	Exists	7066	K:Plantae (Passifloraceae)	3	11
1	Analysis	Families	Exists	7061	Bignoniaceae	27	1
1	Analysis	Families	Exists	7069	Fabaceae	350	1
1	Analysis	Families	NEW	6971	Lauraceae	97	0
1	Analysis	Families	NEW	7066	Passifloraceae	3	0
1	Analysis	Genera	NEW	7061	Digomphia	4	0
1	Analysis	Genera	NEW	7066	Dilkea	3	0

Example results showing Exists or New. Various useful stats are provided.

After analysis, you may prefer to go back to edit the data rather than import the data. If you have ticked the import option Analyse only, the process stops when the analysis of all batches or all tagged records is complete.

Transfer of data to BRAHMS

The transfer of data into BRAHMS takes place immediately after the analysis – unless you have the **Analyse Only** option selected. As data are moved into BRAHMS, the various tables are populated with new data values as required. When records are added, for example a new family name, the RDE file name is stamped into a field called Imported From RDE File.

Reviewing analysis/import details

Introduction

When you have completed an RDE import and closed your RDE file, you can still review the analysis and import log activity. There are two ways to do this as discussed below.

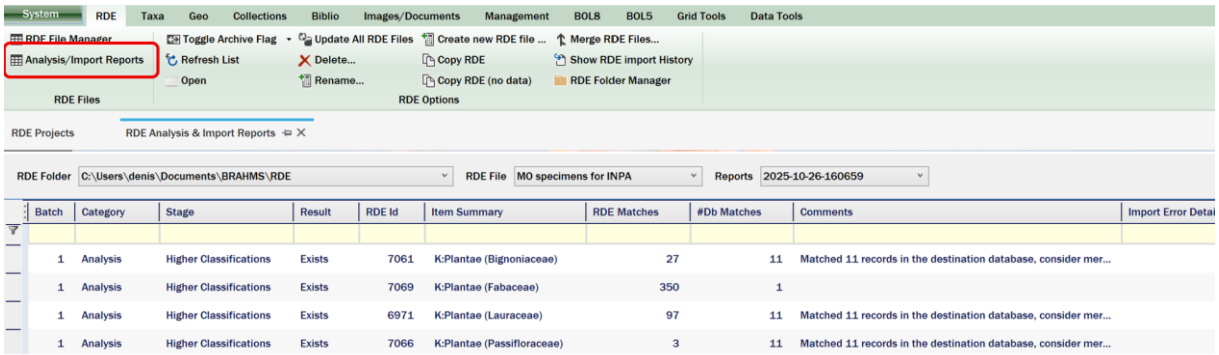
Summary of analysis/import

To review a basic summary of the process, open the RDE Manager, locate but do not open the RDE file to review and select **Show RDE Import History** on the RDE toolbar.



Consult detailed log files

To review comprehensive details on the analysis and import history, select the option **Analysis/Import Reports** on the main RDE menu.



Using the options above the data grid, you can:

- Select the RDE folder
- Select the RDE file in the selected folder
- Select the import date to review

Deleting analysis/import log files

Over time, RDE log files build up and you may wish to delete these. These log file can be located in a subfolder of your RDE storage folder(s) named RDE Processing logs.

Special considerations

RDE files for collection events and preserved specimens

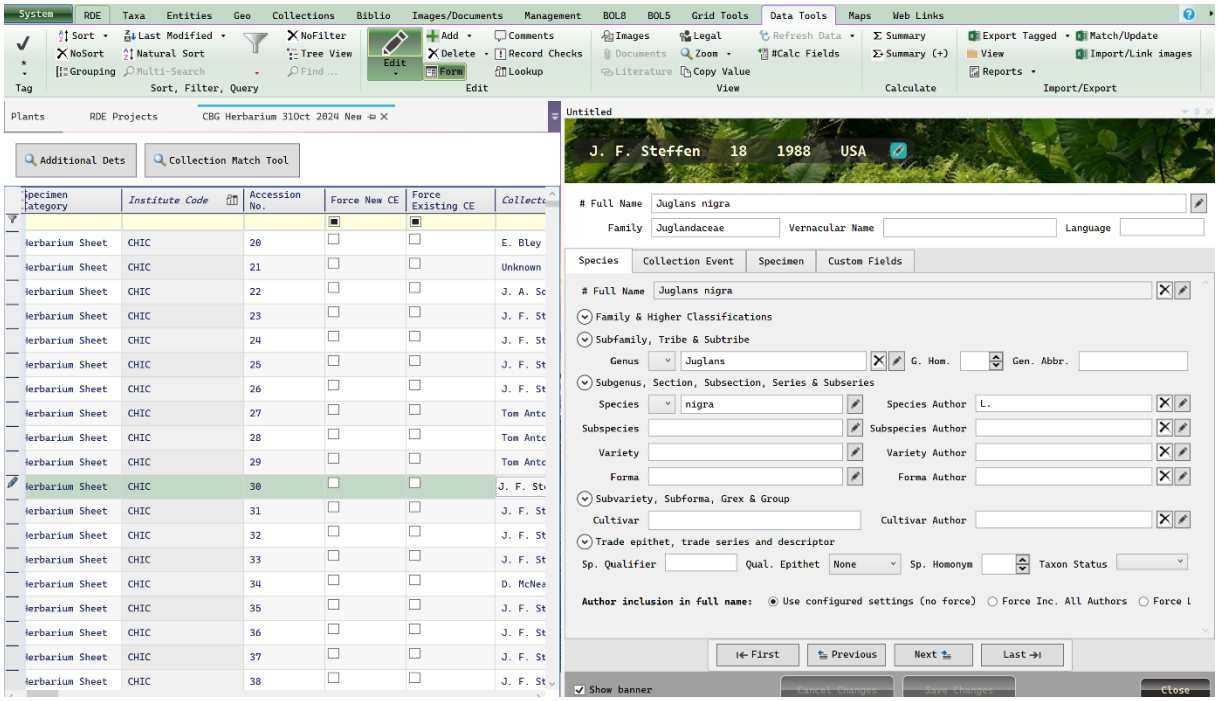
RDE files for specimens, be they animals, plants, fungi, microorganisms or any category of natural history data, share a number of features in common. This section lists a few points to consider when planning data entry.

RDE files for specimens are fundamentally collection event records storing the collector and field number; the collection date and place; the identification as known; and descriptive texts under various headings.

A record may be an observation or another type of entry with no physical specimens. In this case, the record will have no entry in the **Institute code** field. If the record has no entry in the Institute code field, it is considered to be simply a collection event record with no physical specimens. And if the file is transferred to BRAHMS, it will add collection event records – but it cannot add specimens.

Specimen RDE form

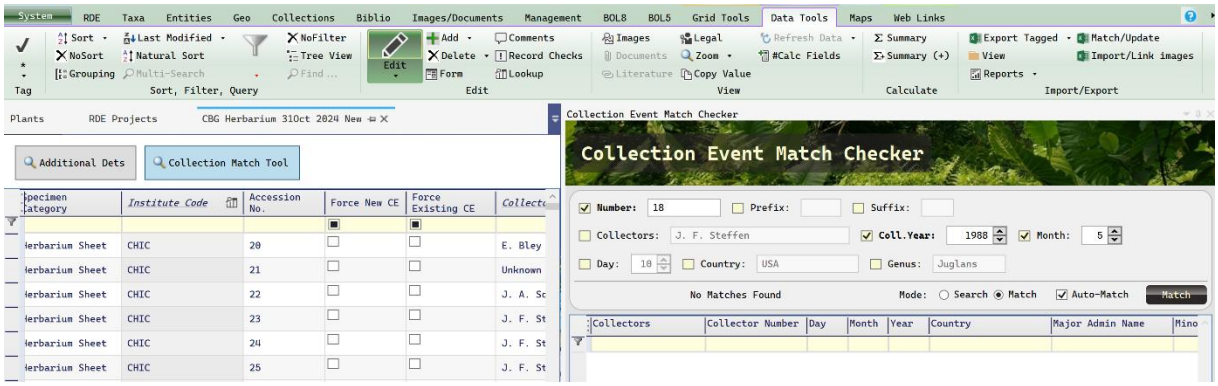
RDE for specimens can be edited *via* a comprehensive form.



The RDE form has tabs to cover all RDE fields.

Collection Match Tool

A configurable Collection Events matching tool is available for use with specimen RDE files. This allows you to check whether a particular record has already been added to your database or simply to search for matching collections. The tool helps avoid the entry of duplicated records. You can also transfer data back to RDE from the database for the matched record and/or go directly to the Collection Event record in your database to edit it.



RDE Collection Event match tool. Adjust the settings to suit.

Match criteria when importing

When importing an RDE file category 'Specimens', the file will consist of collection event records, optionally with physical specimens. Collection events are compared and matched with records already in BRAHMS using the following criteria:

GazetteerId* + SpeciesId + Collectors + CollectorNumber + Prefix + Suffix + Collection Day + Month + Year + Locality Notes (Sometimes LocalityNotes may be the only difference in location data)

**The gazetteer ID itself is generated for new CountryName + MajorAdminArea + MinorAdminArea + LocalityName.*

For Specimens, if the collection event is found to be new then all associated specimens are assumed to be new and no further matching takes place. Otherwise, specimens are matched on all of: CollectionEventId + Museum/herbarium code + SpecimenAccession + SpecimenBarcode.

Specimens and the Institute code

If the RDE file has a museum code (or equivalent) in the Institute code field, this implies that the collection event record has a physical specimen stored at that location. When these data are transferred to BRAHMS, the event will be added together with a specimen record. Certain fields in the RDE file are clearly part of the specimen record – rather than the collection event itself. These fields, any of which may not be available, include Specimen category, Barcode, Accession#, Folder and Box barcodes and several fields related to type status. Any of these fields, if added, would be stored in the specimen table – linked to the collection event itself.

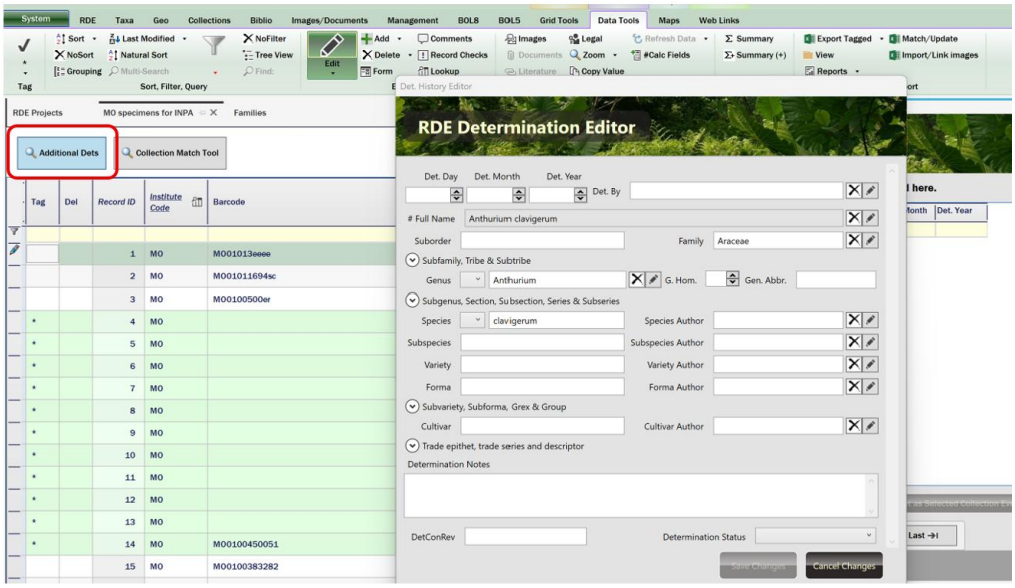
Adding multiple specimens per collection event

If you want to add multiple specimens per event at one time – for example, you have knowledge that the event resulted in several specimens (duplicates in the botanical world), you have two options:

a) The code in the "Institute Code" field is added as the main specimen and will be given the barcode/accession number as added to the RDE file. Extra duplicates can be added in a comma separated list of museum codes to the "Duplicates" field as in e.g. "K,MO, L". This will add 3 extra specimens and link these to the collection event. These specimens will be assigned the same det as the main specimen, but no barcode added.
b) You can duplicate the entire collection event record in the RDE file (use Ctrl+F4) and then edit the Institute code and other fields as appropriate. Use this option if you want to register separate barcodes and/or type status.

Adding multiple determinations per specimen

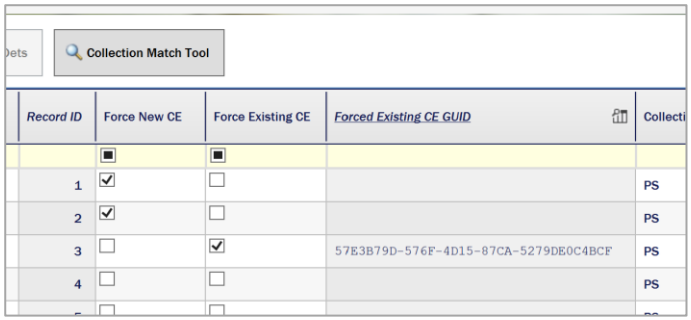
You can add multiple determinations to the RDE record using the Additional Dets option.



Adding additional dets to a specimen RDE file.

Force new collection (CE) event

In specimen RDE files, you can tick the option 'Force New CE', record by record, to force a new collection event (CE) per record. If you have records with very little CE level data, this may lead to specimens being linked inappropriately to a single CE. The 'Force New' option can be used to make sure each CE is added as new and any specimen data are linked to this CE record.



Records with Force New CE ticked will always be added as a new collection event with any specimens being linked to that CE. The use of Force Existing is discussed below.

Force use existing collection event

If you use a lookup in the Force Existing CE GUID field, and select a valid CE record, this will auto-tick the checkbox Force Existing CE and also overwrite Collection Event fields in your RDE file with data values from the selected CE record. On importing to BRAHMS, any RDE records that have this field ticked will locate the CE record as specified and link the RDE specimen data to these located CE records.

If the RDE import form option *Set the Force Existing Collection ID after successful import of Forced New Collection Events* is ticked, this means that if you force the new entry of a collection event, the GUID of that new CE record will be added into the RDE field Forced Existing CE GUID. This is done to prevent the same record being force added more than once. If you were then reimport the same RDE file, it would locate the existing CE record but it would not add new specimen data unless those data had been edited.



RDE files for living collections

Introduction

Living Collection RDE files are designed to batch add data for accessions and plants – and also to transfer data from other formats via Excel.

Although these files import in the same way as other RDE files, a number of special conditions arise. Living collection RDE files may include data for the accessions and also the plants themselves. Given that there may be more than one plant record per accession, the RDE file has to correctly link these data.

Rules for accession and plant numbering in RDE files

In general, accession and plant numbering are controlled by your system format settings option for living collection accession numbering. In RDE files the following rules apply:

Accession numbering

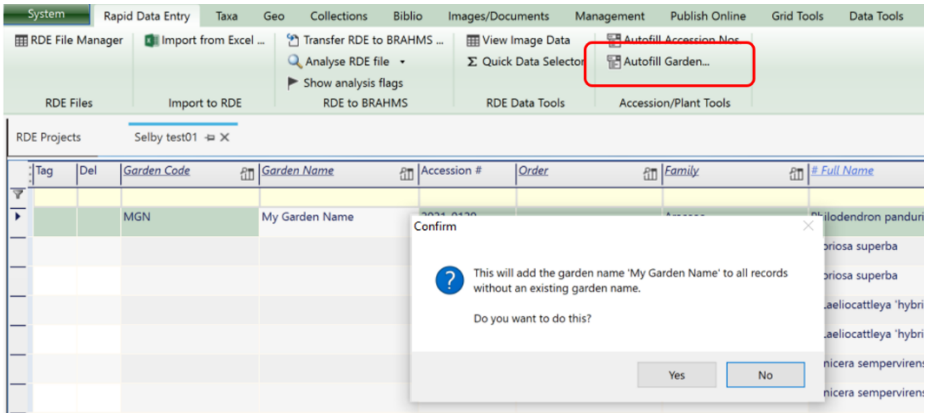
1. If the Accession # is blank, it will not be imported.
2. If the Accession # field starts with "RDE", this is a signal to the importer to auto-generate the next available number for the current database. The Accession #s must however be made unique, for example using 'RDE1, RDE2, …' or 'RDE0001, RDE0002,…', 'RDEabc,…' or as you wish.
3. On importing, the RDE Accession #s are converted to the numbering system assigned in your configuration setting. Thus 'RDE1' may be converted to '2019-00050' and RDE2 to '2019-00051'.
4. If you add an Accession # entry lacking the text string 'RDE', such as '12345' or '2019-100', it will be added as entered, assuming it is new to the database. If it is not new, it is not added.
5. As described below, you can repeat an Accession # in the RDE file if you have multiple plants to import. Note, if repeating an accession entry (i.e. multiple plants), the accession details need only be entered in the first record.

Plant ID numbering

1. If the Plant ID field is blank, no plant record is added for the accession.
2. If the plant ID field is set to '*', a plant record will be added for the current accession and the Plant ID will be auto-calculated using '2019-100*1', '12345*1', etc.
3. If the Plant ID is added as a string as in '0012345' or '2019-50*1', it will be added as entered, assuming unique.
4. If the Accession # is repeated in the RDE file, for example, there are 3 records all with Accession # 'RDE0001', and each record has Plant ID set to *, this would result in one accession record with 3 linked plant records.

Adding Garden code/name to your RDE file

Before importing your RDE file, you must ensure all records have a garden code/name entry. This is because all accessions are linked to a garden. Clearly, this is required for single and multi-site projects. Any records that do not have a garden code/entry *will not be processed* by the RDE importer. An RDE file may contain records for more than one garden/site.



If all entries in the RDE file are the same, use a standard lookup option to select the garden for one record, for example the first record, then use the function Autofill Garden… to add the same entry to all records.

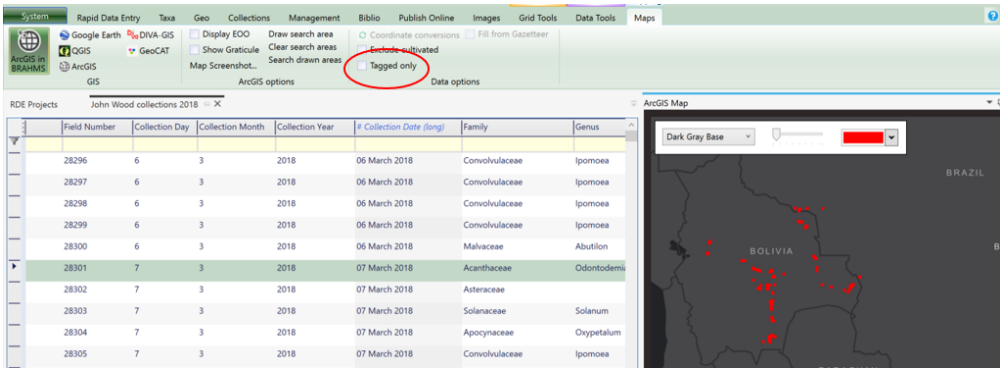
RDE Example Mapping data points

Video*:* https://herbaria.plants.ox.ac.uk/bol/brahms/software/v8videos#labelstoppt

This example opens a small RDE file of botanical specimen data prepared by J.R.I. Wood (Oxford) from his field work in Bolivia. To proceed with this task:

- First download the file RDE_Bolivia_JRIWood.zip and open the zip to the folder Documents/BRAHMS/RDE. The zip file includes an RDE file of specimens.
- Log onto BRAHMS – choosing any project and select **Rapid Data Entry** > **RDE File Manager**. This will list any RDE files located in your BRAHMS\RDE folder.
- To open the RDE file, double-click on the RDE manager entry 'JRIWood_Bolivia'.
- Explore this RDE file using the **Column Summary** option on the **Data Tools** toolbar.

To map the file, select **Mapping** > **ArcGIS in BRAHMS**. Initially, if no records are tagged, no points will be plotted. To map the entire file, remove the mark from **Tagged only** on the map toolbar.



*The RDE file mapped with the **Tagged only** option de-selected. If you now tag some records, you can use that option to restrict the map to tagged.*