User Manual

DINA Collections

Version: June 17, 2019

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1 Introduction

These instructions are intended for end users of DINA Collections.

1.1 What is DINA Collections?

DINA Collections is a web based collections management system for natural history collections. It has been developed by the Swedish Museum of Natural History between 2017 and 2019 to support some of the workflows of a mammal collection. The plan has been to extend the system's functionally to support more collections and workflows. Its current status is a *proof of concept* system that can be used for a mammal collection with limited needs.

1.2 How to use this manual

This manual serves as a reference guide for how to do the basic operations in DINA Collections. It is not expected to be read from beginning to end. Instead, use the table of contents to find the information that is relevant for you!

1.3 Collection-specific instructions

This manual does not cover collection-specific instructions such as routines and rules for what to enter in the fields. It is strongly recommended that each collection in DINA Collections in addition to this manual also has such instructions! For example, in one collection it may be important to keep internal remarks in English only, in another it may be ok to have a mix of languages. Or a user may not know when to use different options in a dropdown lists and this needs to be explained.

1.4 Terms used

In this manual there are some terms that may need a little bit of explanation.

Terms in this manual

Term	Description
Collection contact person	The contact person for a collection in the system.
Record type	The *kind* of record such as a specimen or an agent.
Result set	The records available for browsing. The default is that all records are visible. If a filter is applied the number of records in the result set may be limited.

2 System overview

DINA Collections is a web based system, which means that you can reach it from a web address provided by someone who is hosting it on a web server. It is built to manage collection specimens, and to support this it has six different record types, representing different kinds of information.

2.1 Record types

The record types in DINA Collections are: specimen, agent, geography, storage, taxon and scientific name. Geography, storage and taxa are stored in trees, while specimens, agents and scientific names are not.

2.1.1 Specimens

Specimen is the main record type and where all information about an individual and its physical collection objects is kept. A specimen normally has information about:

- Taxon and determinations.
- Locality and origin.
- Collecting and death.
- Preparation types.
- Features such as sex, age and measurements.

A specimen can have direct relations to most other record types:

- *Storage* - the places where the physical objects from a specimen are stored.
- *Geography* - where the specimen was collected.
- *Agent*s - who collected or did other things to the specimen.
- *Taxa* - the taxon to which the specimen belongs to, its *taxon name*.

2.1.2 Agents

An *agent* can be a person, a named group of people or an organization. An agent is more than just a name and each agent has to be unique. To separate agents with the same name from one another it is possibilite to provide disambiguating descriptions for the agents. An agent can have affiliations, contact details and information about birth and death.

2.1.3 Geography

A *geography record* represents a defined location with known, fixed extension in space. Each record belongs to a specific geographic level, such as continent/ocean or country. It is related to other geography records in a parent-child tree structure. For example, can a country belong to a continent and contain several provinces.

2.1.4 Storage

A *storage location* is a place where the collection's physical objects can be stored. Each storage record belongs to a specific storage level such as a cabinet or a shelf. Storage locations relate to each other in a tree structure where each record can have over- and underlying storage locations (example: several cabinets can be located in one room).

2.1.5 Taxa

A *taxon* is the building block in the local classification that is used in the management of the collection. A taxon has at least one scientific name, the accepted name. A taxon can have several scientific names that are synonyms as well as vernacular names in different languages.The rank of a taxon is determined by the rank of its accepted name. Taxa are related to each other in a taxonomic tree where each taxon can have one parent and several underlying child taxa.

2.1.6 Scientific names

A scientific name is a name of a certain taxonomic rank, that can be used as an accepted name or as a synonym of a taxon.

2.2 Components in DINA Collections

DINA Collections is built with a few overall layout components that are the same for all record types. There is a form for editing and viewing details, a table and, for some record types, a tree for overview of several records. To limit the number of records currently visible, you apply a search filter on top of the form and table views (see 4.7 Find records).

Numbers in the descriptions below refer to those in the overview picture (Figure 2.1).

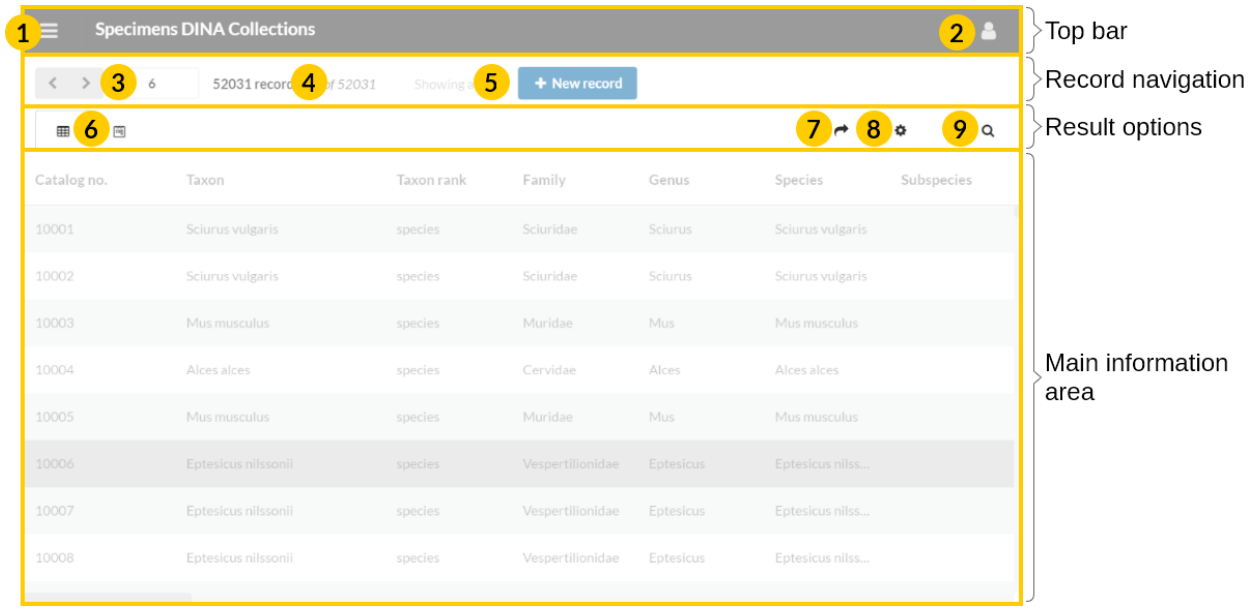


Figure 2.1. Overview of DINA Collections components with the top bar, record navigation, result options bar and the main information area. See text for description of details.

2.2.1 Top bar

The top bar displays the active record type and collection. It has two menus:

- Main navigation menu **(1)**
- User menu **(2)**

2.2.2 Record navigation bar

There is a record navigation bar on pages with records. It has the following elements:

- Forward/backward buttons (to browse records) **(3)**
- Record count in the current result **(4)**
- Show all/new record buttons **(5)**

2.2.3 Result options bar

The result options bar is visible on pages with records and it contains:

- Table/tree/form view selection tabs (tree view is limited to some record types) **(6)**
- Result export button (available in table view) **(7)**
- Table settings button (available in table view) **(8)**
- Filter settings button (for searching) **(9)**

2.2.4 Main information area

The main information area differs between page views but primarily it displays results in form, tree or table view (See Figures 2.2 to 2.4).

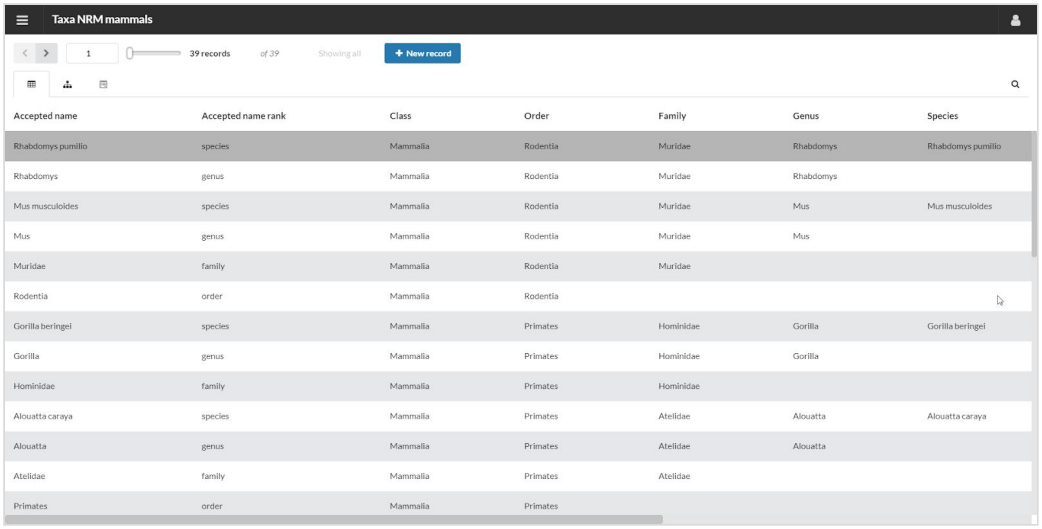


Figure 2.2. The table view.

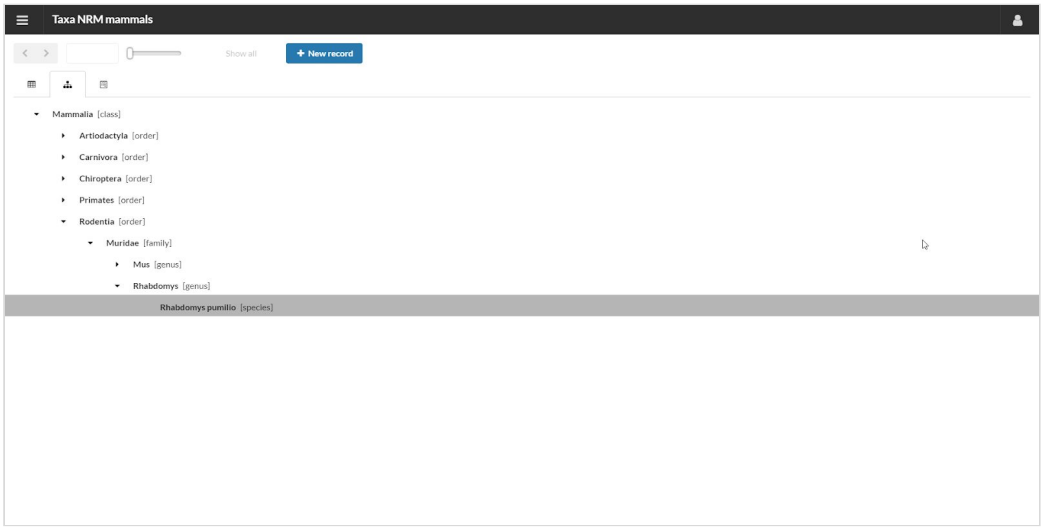


Figure 2.3. The tree view.

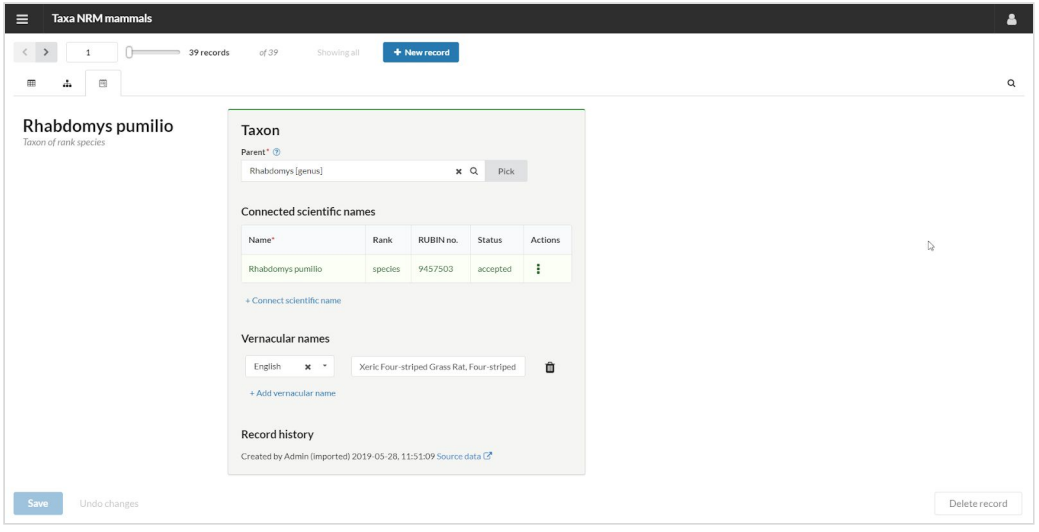


Figure 2.4. The form view displaying a taxon record (Rhabdomys pumilio).

3 Getting started

Note! Each collection in DINA Collections should have a responsible contact person, here referred to as the *collection contact person*.

3.1 Access/login

To get access to a collection and login, follow the steps beneath.

Access and login

Step 1	Contact the *collection contact person*.
Step 2	The *collection contact person* will provide username, password and web address to the DINA Collections start/login page.
Step 3	Log in using the credentials provided.

3.2 Lost password

You can reset your password by contacting the *collection contact person*.

3.3 Keyboard shortcuts

You can display a list of available shortcuts for each view in DINA Collections by pressing keys d + d.

Keyboard shortcuts

d + d	Show all keyboard shortcuts available for the current view.

3.4 Help and feedback

You can find contextual help for fields in the form by clicking the question mark help symbol that is available close to the fields in the form.

Help display

	Click the question mark symbol to open a help pane in the right area of the page.

To get more information about the system and to provide feedback, contact the *collection contact person*.

4 General operations

There are several operations that are more or less the same regardless of record type. If there are any differences in the behaviour between the record types, these are mentioned in the descriptions.

4.1 Change record type

Change record type

Options

- Use the main navigation menu (see Figure 4.1).
- Use **keyboard shortcuts**:

  n + s Go to specimens.

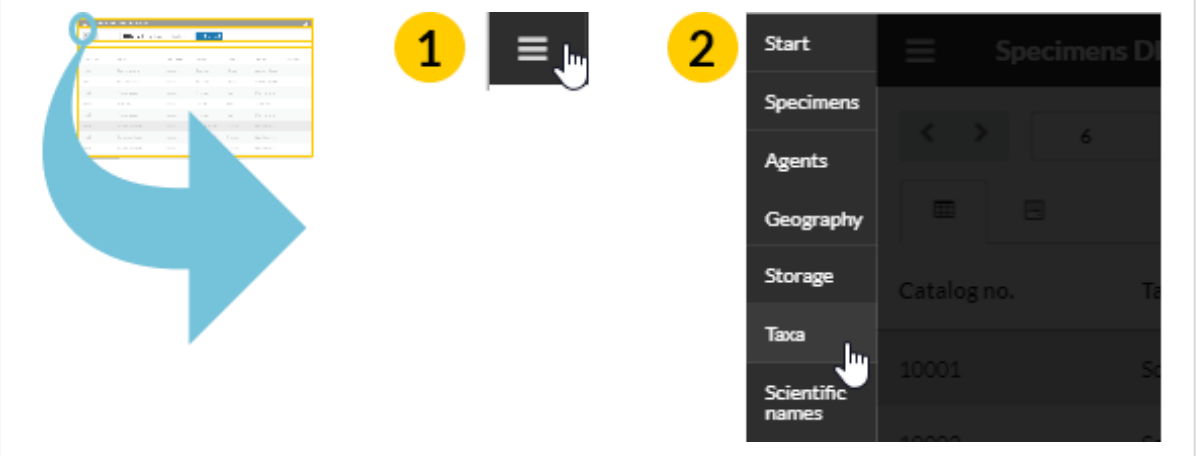


Figure 4.1. The main navigation menu (2) is opened from the “hamburger” menu (1) in the left corner of the top bar.

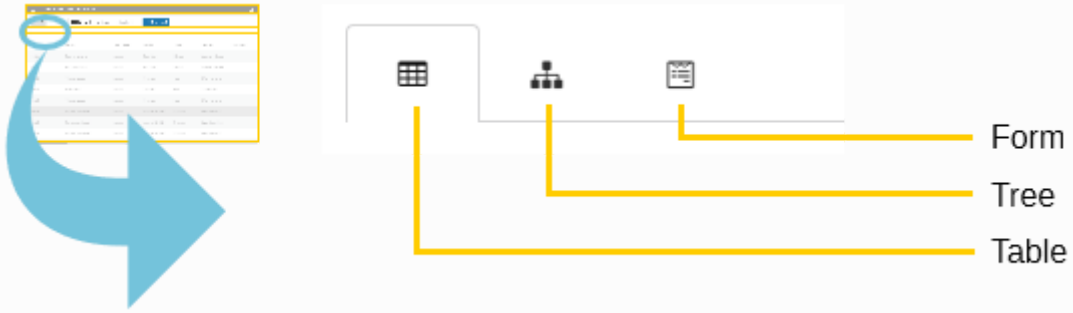
4.2 Switch between views: table, tree and form

When you switch view between form and table the records available for browsing (the result set) stays the same and so does the currently selected record. When switching to the tree from the others and back, the selected record is the same, but any filter previously applied has to be reapplied since the tree always shows all records.

Switch view

Options

- **Click on a tab icon** in the results options bar (tree icon is only available for tree record types).



- Use **keyboard shortcuts**:

space	Open focused record in form view
n + t	Open table view

4.3 Navigate between records

You have some options to choose by for browsing records in the different views (table, tree and form), as described below.

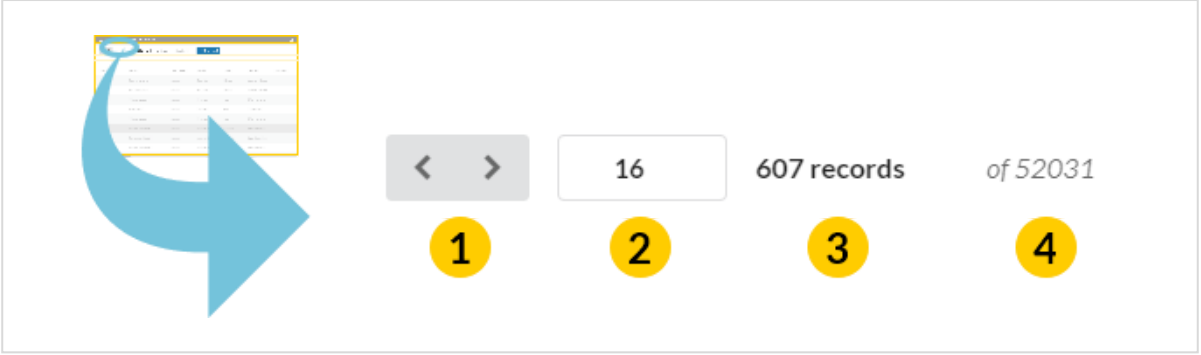


Figure 4.3. Record navigation options available for form and table views. Record navigation arrows (1). Currently selected record (2). Record count in current result (3). Total number of records (4).

Navigate between records in the table

Options (see Figure 4.3 for numbering)

- Use arrows in the record navigation bar to go back and forth between records **(1)**.
- Enter the record number in the *currently selected record field* to go to that specific record **(2)**.
- Mouse click on a table row to select that record.
- Use **keyboard shortcuts**:

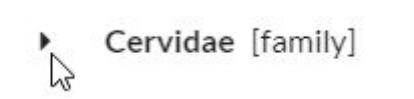
↑	Go backwards (up in the table)
↓	Go forward (down in the table)

Navigating in the tree

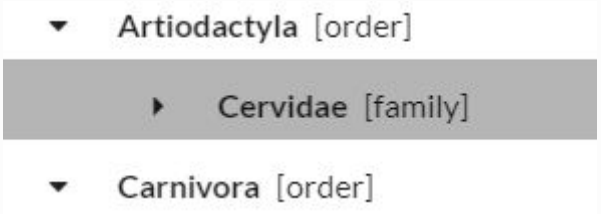
Options

- Mouse click:

  On a node arrow symbol, to expand/contract that node.



  On a node's text, to select that node.



- Use **keyboard shortcuts**:

↑	Go up in the open tree nodes.
↓	Go down in the open tree nodes.
→	Expand a closed node.
←	Contract an open node.

Browse records in a form

Options (see Figure 4.3 for numbering)

- Use arrows in the record navigation bar to go back and forth between records **(1)**.
- Enter the record number in the *currently selected record field* to go to that specific record **(2)**.

4.4 Use forms

You should use forms both viewing details and for editing data. Forms from the different record types have the same general appearance although the form fields differ. The specimen form is a bit different from the others, having form sections to chunk up the form (see 4.4.1 Switch between form sections for more info).

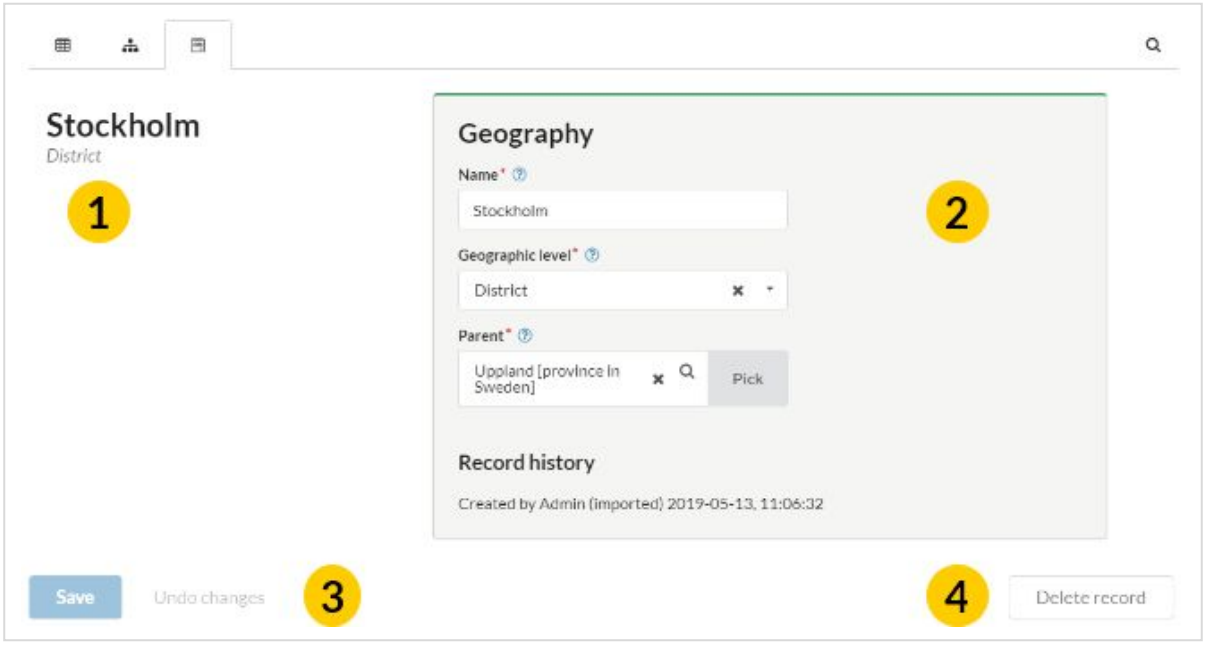


Figure 4.5. Example of a form (geography) with form title (1), form content (2), save/undo buttons (3) and delete-button (4).

4.4.1 Switch between form sections

A form section is a part of a large form (the form is divided into chunks that are easier to view and edit). The only record type that has form sections is specimen.

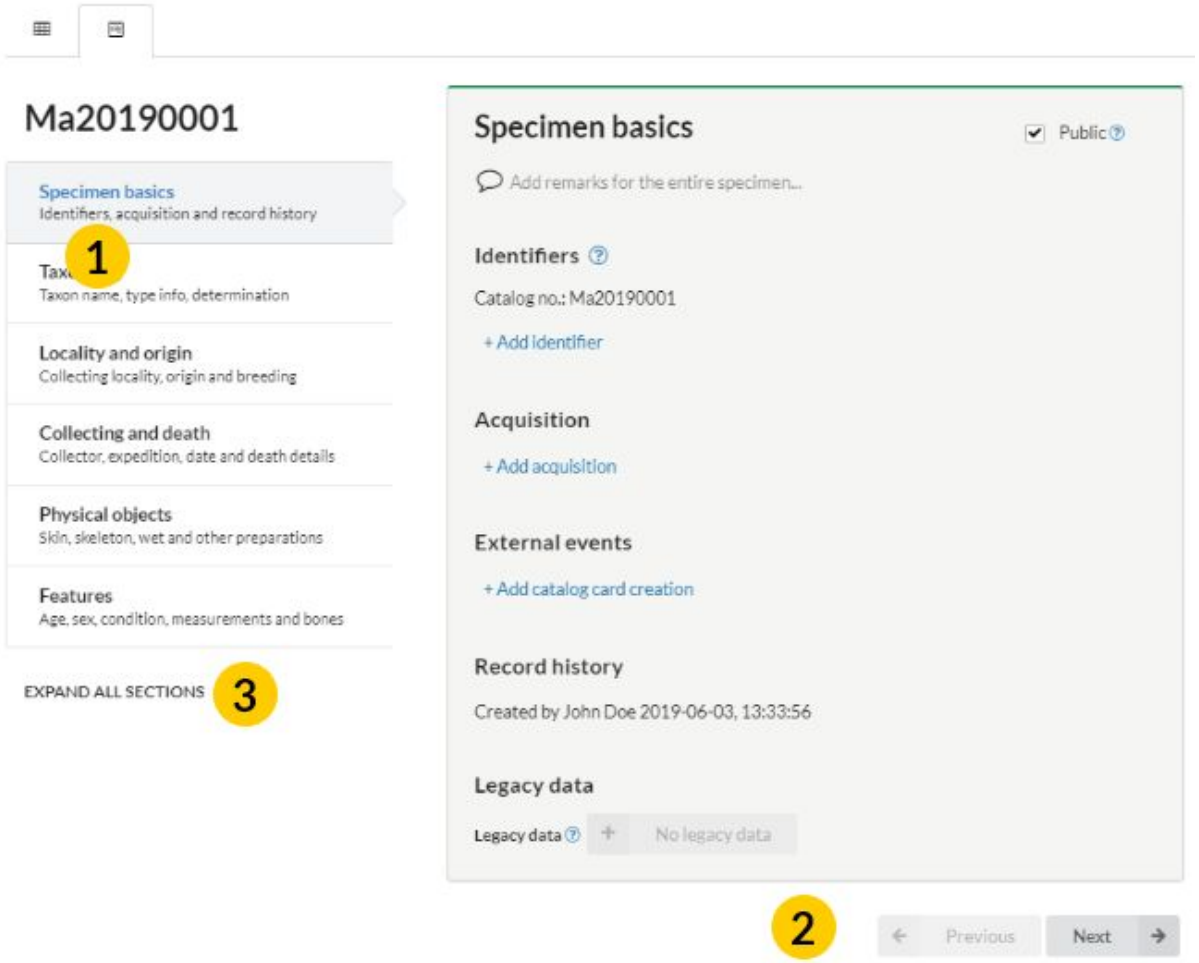


Figure 4.6. Specimen form with sections. Section navigation (1) is located to the left of the open section, other option to navigate is to use “Previous” and “Next” buttons (2). The sections also can be expanded all at once (3).

Navigate form sections

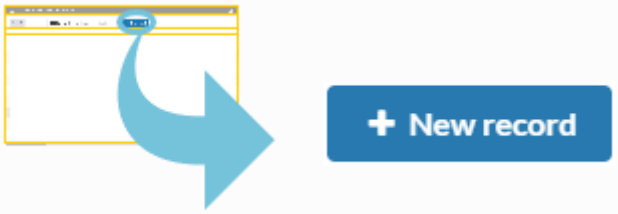
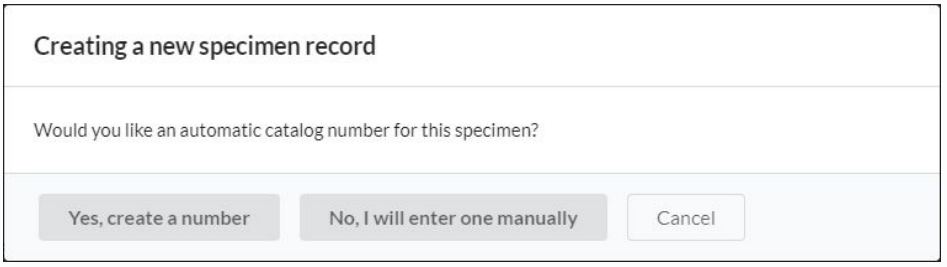
Options (see Figure 4.6 for numbering)

- Press the title of the form section in the form section navigation to the left **(1)**.
- Use previous/next buttons below the form section **(2)**.
- It is also possible to expand all form sections, to view them all in one page, by pressing “EXPAND ALL SECTIONS” below the form section navigation **(3)**.

4.4.2 Add and save a record

Note! Specimen differs from other record types in that a catalog number must always be added in the first step.

Create a new record

Step 1	**Options** • Click button “New record” in the record navigation bar.  • Use keyboard shortcuts: n + n Create a new record of the currently active record type
Step 2 *Specimens only*	Select an option for catalog number (automatic or manual): • “Yes…” A new record will be created with an automatically generated number • “No…” A manual catalog number will be requested and validated in the next step , before the new record is created  **Note!** Specimen records are directly saved after the catalog number is added, while you can cancel the creation of other records using the “Cancel create” button.
Step 3	Add data and save the record.  **Note!** All required information (fields marked with *) have to be added before saving.

4.4.3 Delete a record

All record types except specimens can have relations that blocks deletion. Relations can be to specimens or parents/children of the same record type (in the tree).

Delete a record

Step 1	Go to the form of the record you would like to delete
Step 2	Click button “Delete record”.  If the record has relations (see 4.4.4 Work with related information) that is blocking deletion, the deletion will be stopped and there will be a message about this with links to the related record.
Step 3	Confirm deletion. **Caution!** The record will be permanently deleted after confirmation.

4.4.4 Work with related information

Sometimes a record has relations to other records of the same or some other record type.

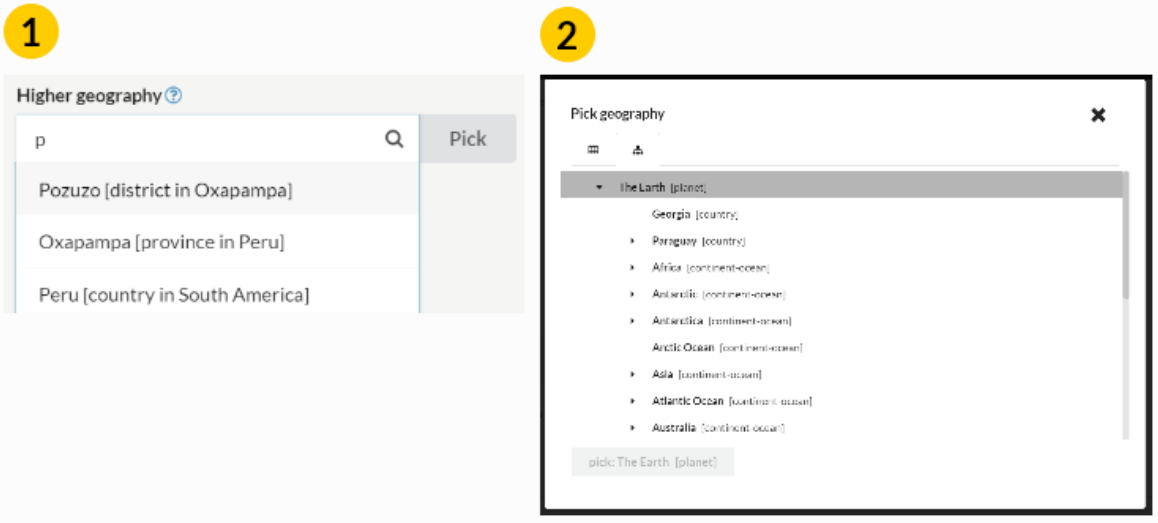
A tree record can relate to another record of the same type. Taxa can additionally relate to scientific names. Specimens can be connected to all other record types in some way, except directly to a scientific name.

Where you can relate another record there is a lookup field (a field with a search symbol). Generally, there are two ways of relating to another record.

Enter a related record

Options

- Start entering the name of the related record and select from the dropdown that appears **(1)**.
- Click the "Pick"-button to search for and pick a name in a picker **(2)**.



Note! If the record that you want to relate can't be found, it must be added as a new record for that record type (see Add a completely new related record below).

Add a *completely new* related record

Step 1	Open the main navigation from the top right corner of the page (see Figure 4.1).
Step 2	Open the record type of the new related record to be added ***in a new window***. **Windows:** Shift+Click the link *or* Ctrl+Click / Right-Click the link and from the contextual menu, choose "open in new window". **OSX:** Cmd+Click the link *or* Ctrl+Click / Right-Click the link and from the contextual menu, choose "open in new window").
Step 3	Add a new record and save it (see 4.4.2 Add and save a record).
Step 4	Close the window and return to the record first being edited.
Step 5	Enter the related record as previously described.

Remove a relation

Click the “x” next to the name of the related record in the input field.

Note! It is only the *relation* that is removed, the record will be kept!

Edit a relation

Options

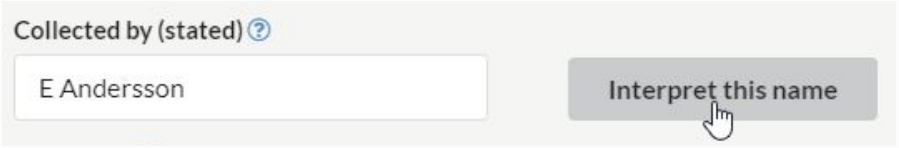
- Remove the relation and continue to relate another (as described previously in Enter a related record).
- Click the “Pick”-button to search for and pick a new name directly in a picker.

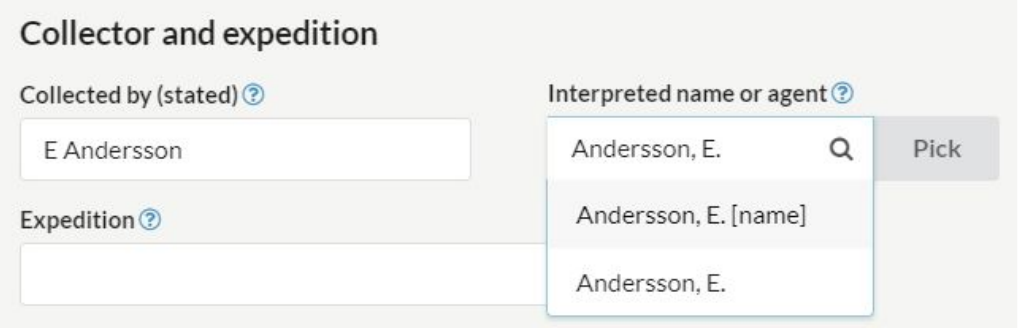
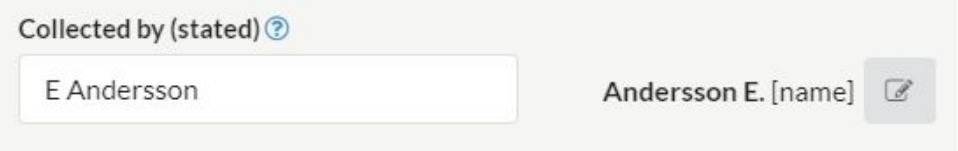
Note! Editing the information in the related record has to be done in the form of the related record.

4.4.5 Interpret a name

In all places were you can enter a stated name of an agent you have the possibility to make an interpretation of this name, either as a plain text or as an agent.

Add an interpreted name or an agent

Step 1	Click button “Interpret this name” close to the stated name. 

Step 2	**Options** • Start typing the interpreted name and pick a name (i.e. a text with no relation to an agent) or an agent from the list. Names are suffixed "[name]". • Use the "Pick" button to search for an agent (see 4.4.4 Work with related information).  **Note!** It is recommended that a collection use some kind of standardized format for plain text names, for example {Last name}, {First name}.
Step 3	Click in another field to see the interpreted name or agent.  It is possible to edit the interpretation by clicking the edit (pen) button.

4.4.6 Correct issues that prevents saving

When there is a problem (with the information that has been entered) that prevents saving, the input (or group of inputs) affected turns red. In the specimen form, the section navigation also turns red to indicate where the issue is (Figure 4.7).

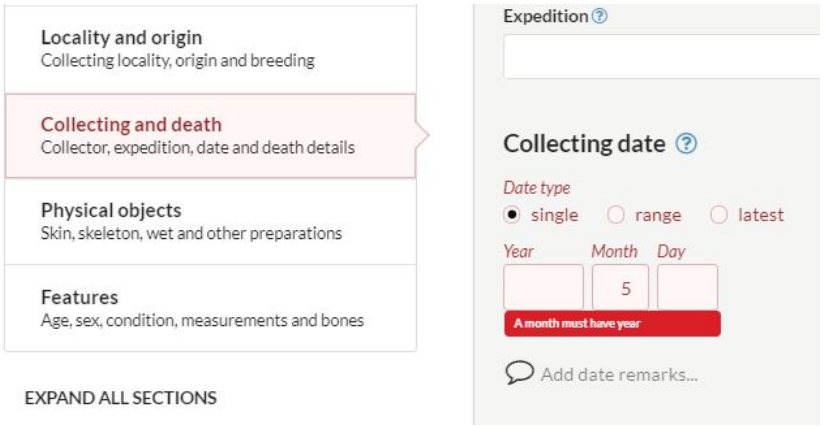
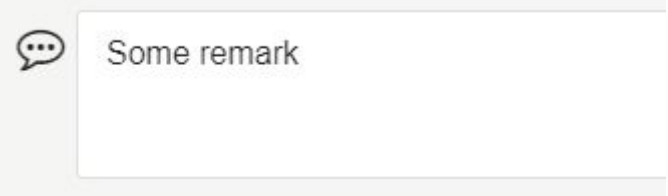
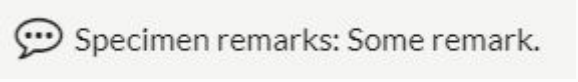


Figure 4.7. Specimen form with error display.

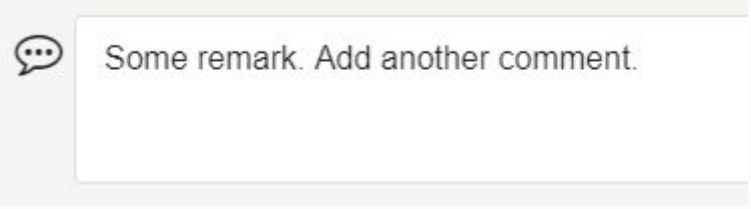
4.4.7 Add and edit remarks

You can add remarks for specimens in several places.

Add remarks

Step 1	Click “Add remarks for {something}...” 
Step 2	Enter some text in the input that appears. 
Step 3	When clicking on some other element, the remark changes its appearance. 

Edit or remove remarks

Step 1	Click on the remarks text. 
Step 2	Change or remove the text in the input that appears. 

4.4.8 View source data

Source data is data captured in previous format, before the record was transformed and imported to DINA Collections. Source data may be available for all records that was migrated from some other system, except for geography and storage records. It is arranged in a structured format with contactable/expandable levels.

View source data

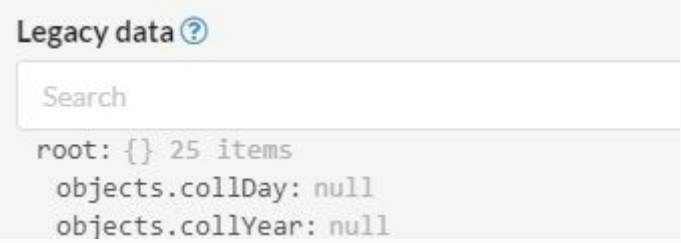
Step 1	Click the link “Source data” under the “Record history” heading at the end of a form or at the end of the first form section. 
Step 2	The source data will open up in a new window where it is possible to search for and browse through the items. 

4.4.9 View legacy data

When data is moved from a previous system, not all data can be transformed to fit DINA Collections. Custom data can instead be added as “Legacy data”. It is arranged in a structured format with contractible/expandable levels.

Note! Legacy data may contain important information that can be manually copied to some other field, so don’t miss checking it out!

View legacy data

Step 1	Click the “Display” button under the “Legacy data” heading (available for some record types) at the end of the form or fist form section. The display button is inactive if there is no legacy data. 
Step 2	The legacy data will appear beneath, and it is possible to browse or search through the items. 

4.4.10 Change values in a dropdown list

If there is a problem with the available options in a dropdown list, you should contact the *collection contact person*. It is currently only possible for administrators to change these values from the “backend”.

4.5 Use tables

Tables are for viewing, sorting and exporting data.

4.5.1 Browse records in a table

See 4.3 Table browsing options.

4.5.2 Sort data

You can sort data by table column, one column at the time.

Sort data

Click the column heading to be sorted on. Change the sort order by clicking the same column again.

4.5.3 Change visible table columns

You can change which columns are displayed in a table.

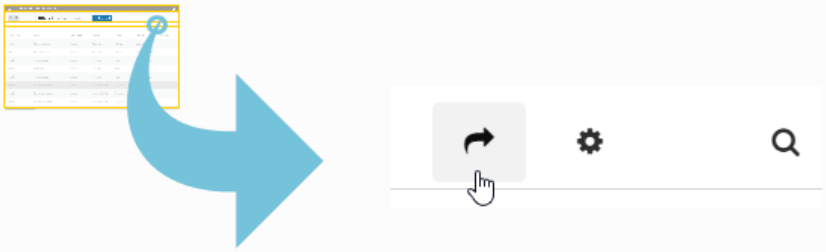
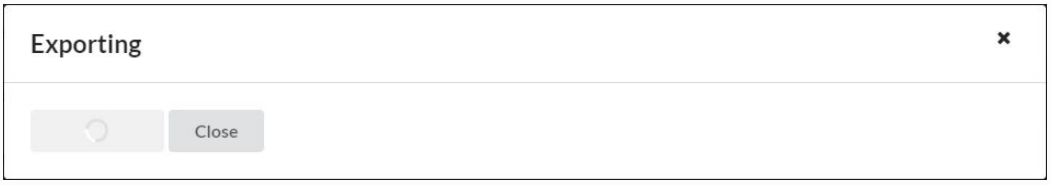
Set visible columns

Step 1	In table view, click the settings icon to the right in the record navigation bar (above the table). 
Step 2	Check or uncheck columns to be displayed. 
Step 3	Save the changes (button at the bottom).

4.5.4 Export data

You export data from a table to CSV in the currently visible columns.

Export data

Step 1	In a table, click the export button, to the right above the table. 
Step 2	Click “Export results to CSV” in the popup. 
Step 3	A dialog appears that indicates the status of the export. 

4.6 Work with trees

Trees are built up by records arranged in a parent-child relationship where a parent can have several children, but where each child can only have one parent. All records in a tree must have a parent, except for the top-level record.

4.6.1 Navigating the tree

You can view and browse tree data by expanding, contracting and stepping through tree nodes. See 4.3 Navigating in the tree for information about how to do this.

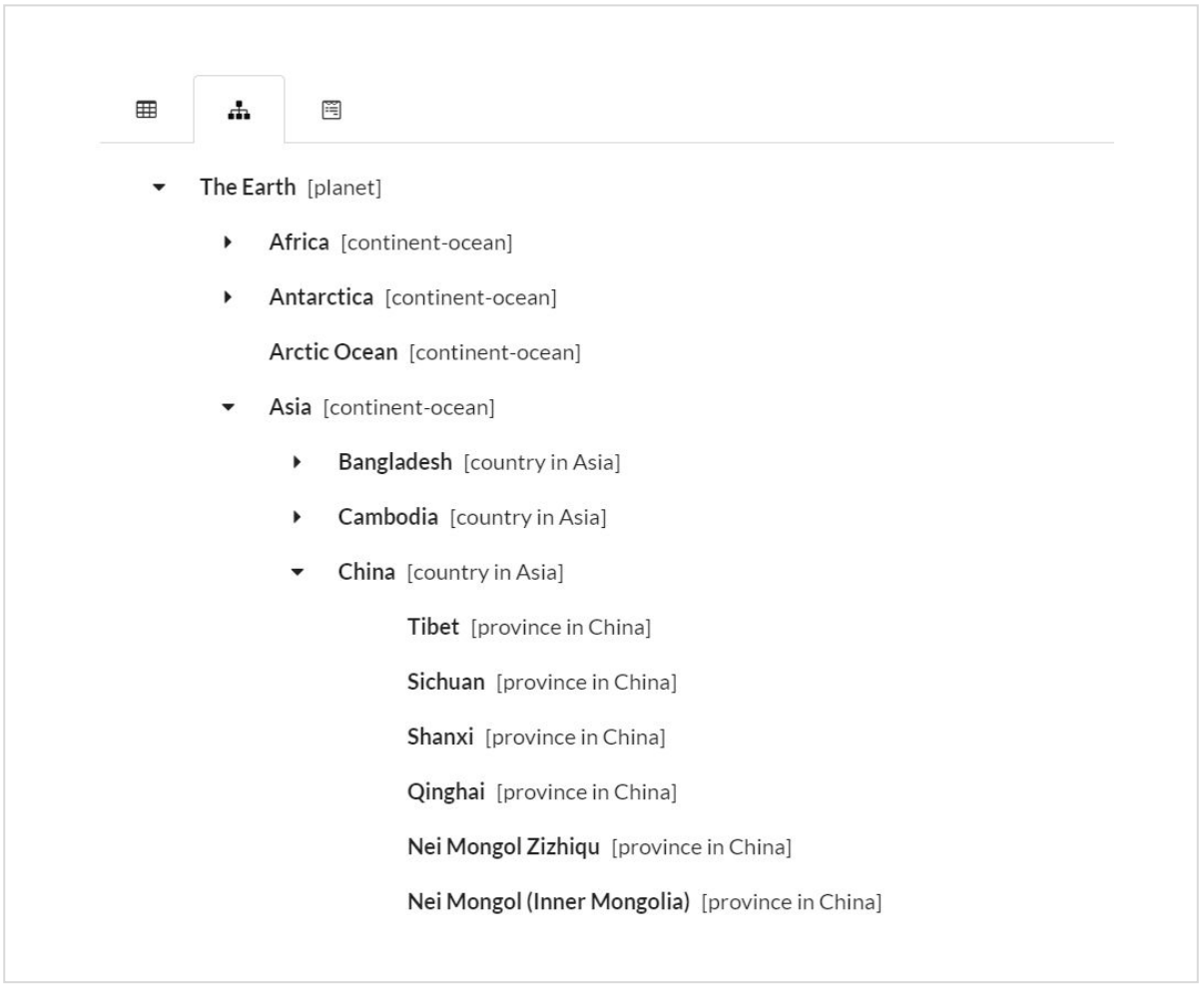


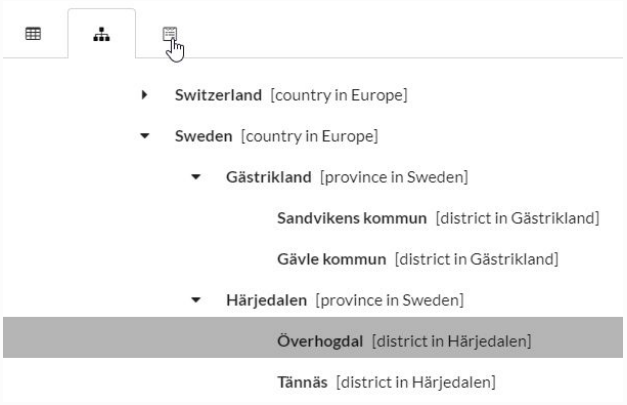
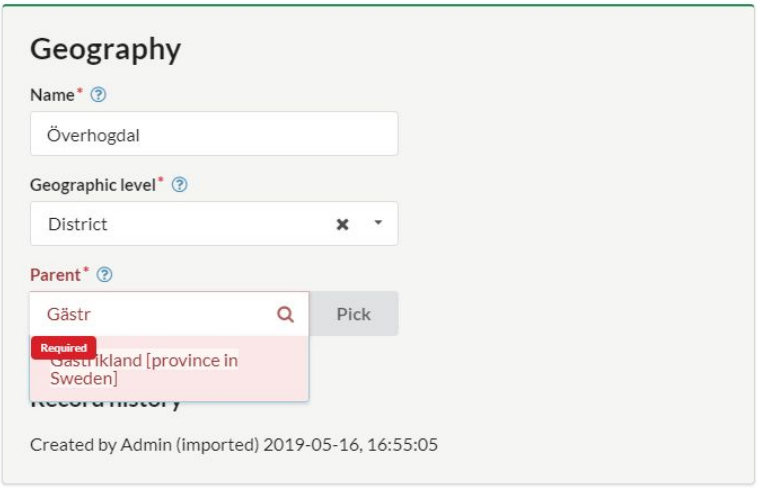
Figure 4.8. Example of a part of a tree with some expanded nodes.

4.6.2 Update the tree

To update the tree structure, you need to move individual nodes around in the tree by editing the parent of the record to be moved.

Caution! When moving a record in the tree it is important to make sure that all ranks and levels are correct after the update. It is also important to check that children (if any) of the moved record are in the correct place.

Move a node in the tree

Step 1	Go to form view of the record to be moved. 
Step 2	Change the parent (all children will follow to the new location in the tree). 
Step 3	Save the record and go to tree view to inspect the change. 

4.7 Find records

You can find records by applying a search filter. If no filter is applied, all records will be visible. Filter options differ between record types but the operations are the same for all record types: showing the filter, applying it, and clearing it. You can add several filter settings before applying it. The filter options for specimens are arranged in expandable sections.

Note! You have to apply the filter each time you have changed a filter setting if you want to see the new result.

4.7.1 Open and close the filter panel

You open and close the filter panel by clicking the search button to the right in the record navigation bar (Figure 4.9).

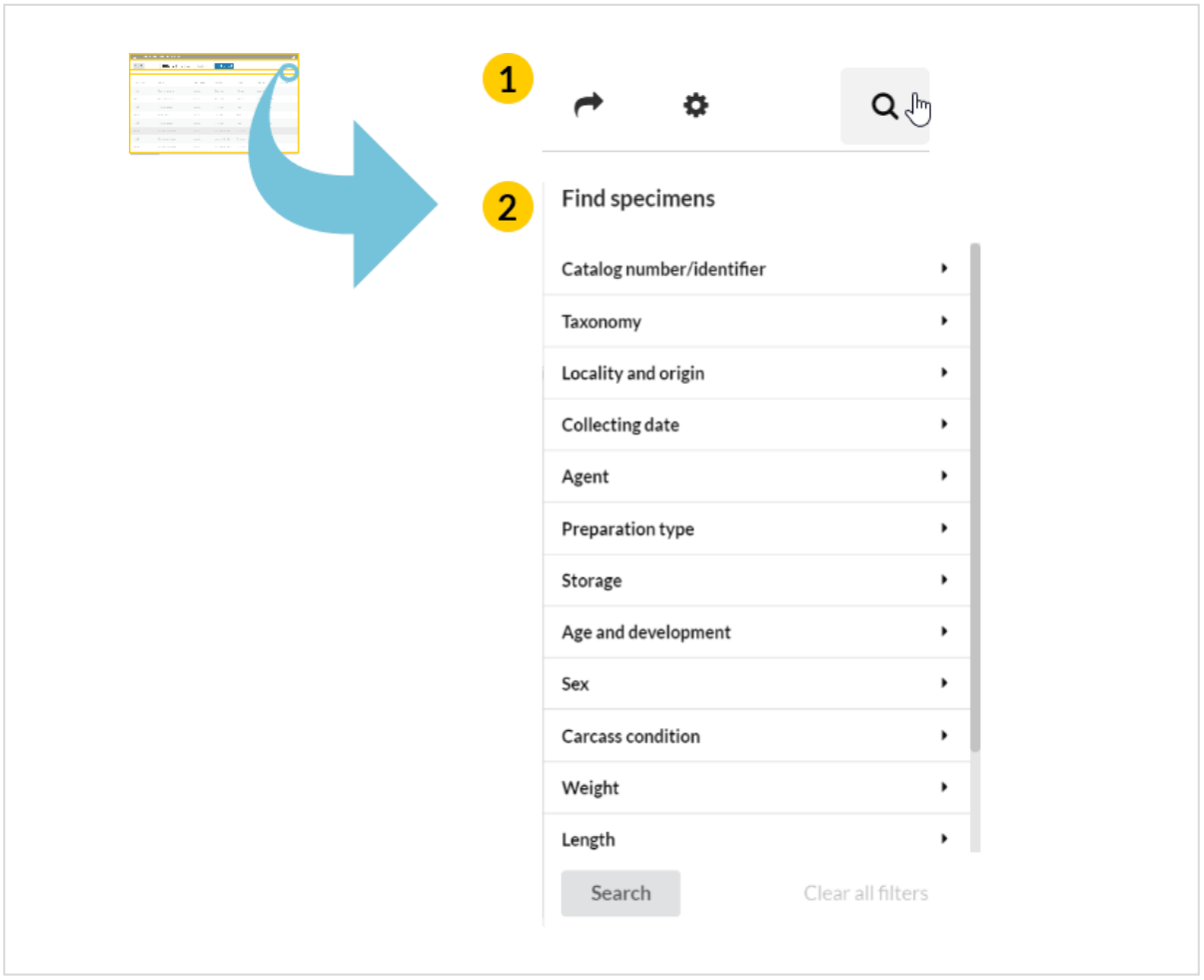


Figure 4.9. The filter panel is opened by clicking the search button (1) in the record navigation bar. The filter expands (2) as a pane to the right of the main content area.

4.7.2 Combine filter settings

The search filter it built on “filter components” (where a component normally can be recognized by having its own label).

Figure 4.10. Example of a filter component (agent name).

Between the filter components results are narrowed down by adding “and” between settings, meaning that both criteria must be fulfilled in the same record.

Different components

Example

Catalog number = “ABC123” (identifier filter component)

AND

Taxon name = “Canis lupus” (taxon filter component)

Matches the one record with catalog number “ABC123” that have the taxon name “Canis lupus” (if such a record exists).

Within a component “or” is applied, meaning that both can be in the result (for different records).

Same component

Example

Catalog number = “ABC123” (identifier filter component)

OR

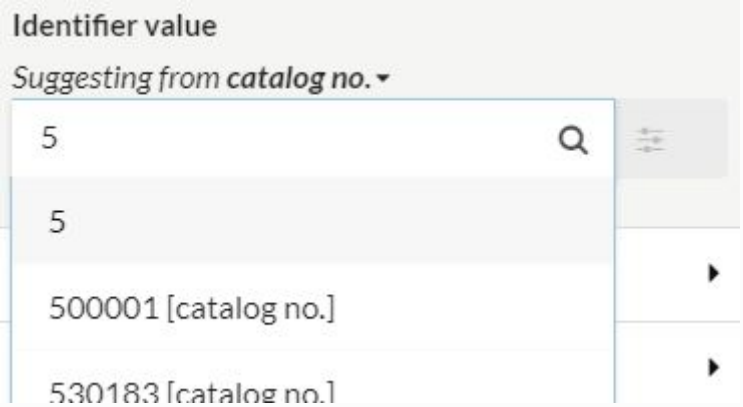
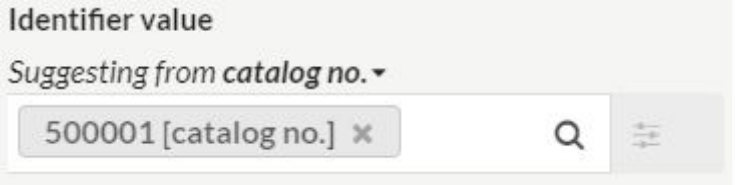
Catalog number = “CDE456” (identifier filter component)

Can match two records, one with catalog number “ABC123” and one with catalog number “CDE456” (if such records exist).

4.7.3 Use search suggestions for exact matches

In most text fields, you can get suggestions (“search tags”) for exact matches. You can add several search tags the filter.

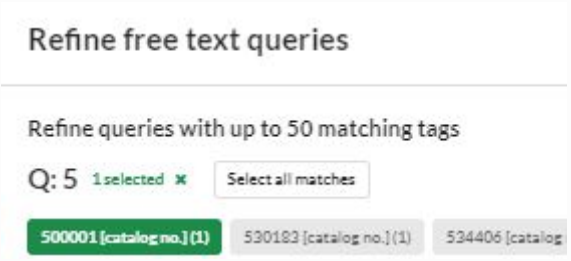
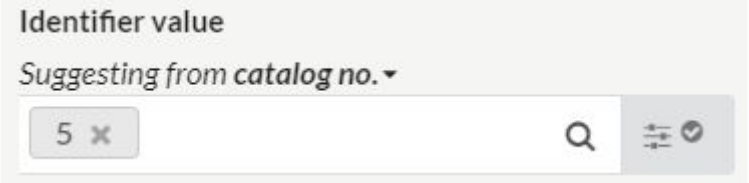
Add search tags from suggestions

Step 1	In a lookup field (a field with a search icon): start typing. If there are any suggestions (for a specific tag type) they will appear in the dropdown. 
Step 2	Select one of the suggestions and it will be added as a search tag.  Repeat (step 1-2) to select more tags if needed.

4.7.4 Enter free text queries

Sometimes you may prefer to make a broader free text search. A free text query gives you all results matching the query string(s) that you have entered (see table Query operators in free text queries for how to write a query). You can further refine a free text query by selecting specific matching dags.

Enter and refine a free text query

Step 1	Start typing in the lookup field. Press enter or select the first value in the dropdown. 
Step 2	Click on the settings button to open the refine window. 
Step 3	All matching tags are displayed for up to 50 matches. For more matches, close the window and make the query more specific to be able to refine it. 
Step 4	Select one or more tags to filter on. 
Step 5	Close the window. The settings-button is marked with a checkmark if the query has been refined. 

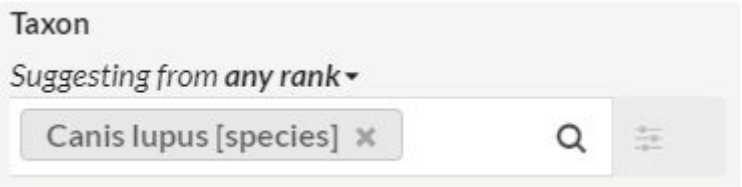
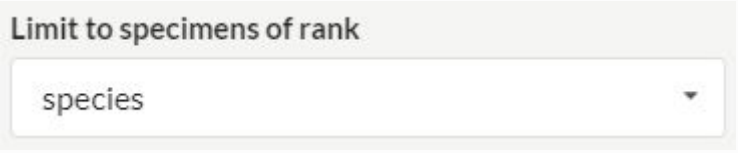
Query operators in free text queries

Symbol	Description	Examples
[none]	Matches beginning of words in any order.	**pusa** - matches “Pusa” and “Pusa hispida”. **pu** - matches “Pusa”, “Pusa hispida” and “Rhabdomys pumilio”. **pu hisp** - matches “Pusa hispida” but not, for example, "Pusa sibirica".
=	Matches whole word or empty content. Should be at the beginning of a string.	**=sus** - matches “Sus” but not, for example, “Ursus” **=pusa** - matches “Pusa” and “Pusa hispida” **=pu** -no match in taxonomy
==	Matches whole field.	**==Pusa** - matches genus “Pusa” but not, for example “Pusa hispida”
""	Matches phrase.	**"pusa hispida"** - matches “pusa hispida” **"pusa hisp"** - matches “pusa hispida” **"hispida pusa"** - no match in taxonomy
*****	“Wildcard”, matches entered string with any text in the place of the asterisk (*).	**pu*** - matches “Pusa hispida“ ***pida** - matches “Pusa hispida“ ***lo*** - matches “Gulo gulo“ and “Mus musculoides“ **mus *lo*** - matches “Mus musculoides“ ***lo* mus** - matches“Mus musculoides“
"*"	Phrase and wildcard can be combined.	**"mus *lo*"** - matches “Mus musculoides“ **"*lo* mus"** - no match in taxonomy
==*	Whole field and wildcard can be combined.	**==mus *lo*** - matches “Mus musculoides“ **==*lo* mus** - no match in taxonomy

4.7.6 Limit to a certain level for tree data

When you search for tree data the default is to include all lower level results, for example showing all subordinate taxa of a taxon you have filtered on for a specimen. You can limit the results to display only records down to a specific level. "Walk."

Limit to a specific level for tree data (example taxonomy)

Step 1	In the filter, add a search tag for a taxon (see “Add search tags from suggestions” above for details). 
Step 2	In the “Limit to specimens of rank” dropdown, choose the rank you want to stop on.  In this example limiting to rank species means that you will only find specimens of taxon “Ursus arctos” (not “Canis lupus familiaris” if specimens belonged to that taxon).

4.7.7 Use filter checkboxes

Checkboxes show the number of records that match different options. When you check one option the number or records matching the other options will be updated.

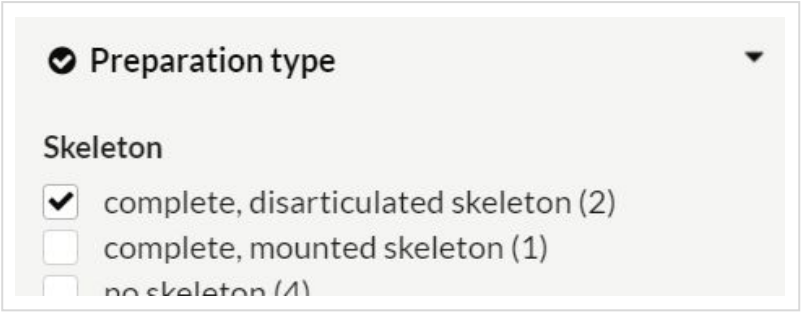


Figure 4.11. Example of filter checkboxes.

4.7.8 Filter ranges

When you filter on ranges the values at the beginning and the end of the range are included in the range. If you omit the start value all values up to (and including) the end value are included. When you omit the end value, all values beginning with, and higher than the start value are included.

Figure 4.12. Age range filter settings.

When you filter on dates you can omit a month or a month and a day. The dates will be interpreted as follows:

- If the start value is partial, the date will interpreted as starting at the beginning of the year or month (year 2014 is interpreted as 2014-01-01; year 2014, month 3 is interpreted as 2014-03-01)
- If the end value is partial, the date will be interpreted to the end of the year or month (year 2019 is interpreted as 2019-12-31; year 2019, month 10 is interpreted as 2019-10-31)

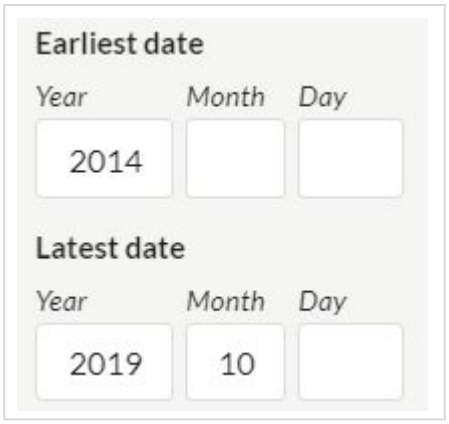
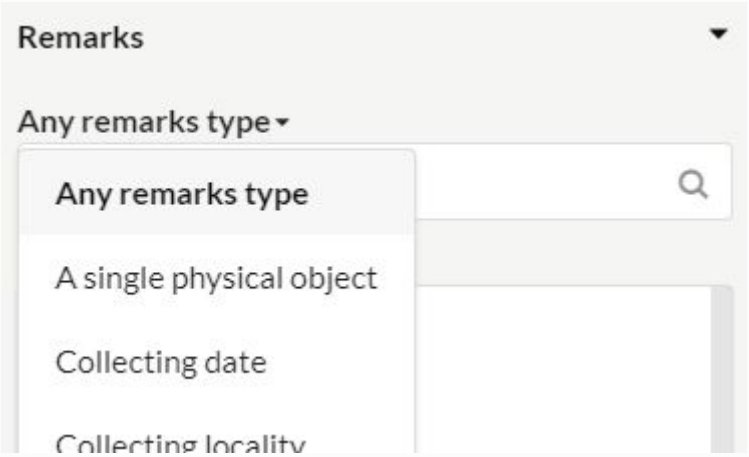
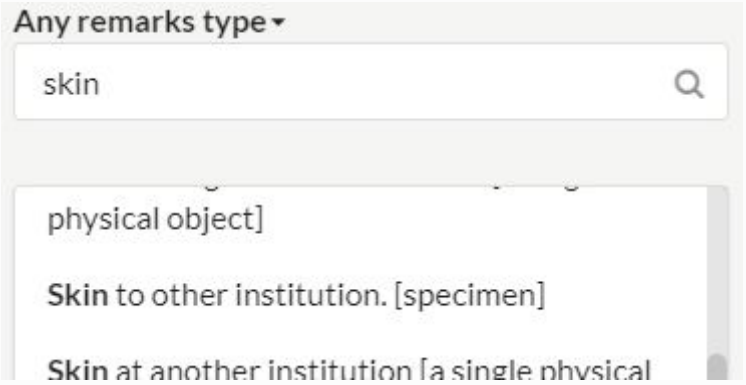


Figure 4.13. Collecting date filter settings.

4.7.9 Search for remarks

You can search for any remarks or limit your search to a specific kind of remarks. You will see a preview of matches to the text you have entered in the remarks filter field.

Enter remarks filter with preview

Step 1	In the filter, go to remarks and select the type of remarks to filter on (or search in any remarks). 
Step 2	Add the text to filter on in the search field. The top matches will be displayed in the preview field below.  In this example, limiting to rank “species” means that you will only find specimens of taxon “Canis lupus” (not “Canis lupus familiaris”).

4.7.10 Apply the filter

When you have added or modified one or several filter settings, you will need to apply the filter (by clicking the “Apply” button) to be able to see the matching records.

4.7.11 Clear filter and show all records

To clear the filter, simply press the “Clear” button. To show all records: press the “Apply” button after having pressed the “Clear” button.

Note! There is a “Show all” button in the record navigation bar to show all records in one click.

4.8 Import and export data

There is currently no way to **import data** from the user interface. It is possible for administrators to do it “backend” though. Contact the *collection contact person* for help.

You can **export data** from the table view, see 4.5.4 Export data for more information.

4.9 Merge two records into one

Sometimes you realize that two records are actually the same. It could for example be two agents that you realize are the same person. To merge two records that have relations to other records, you need to move all relations manually from one record to the other. After that, the record can be deleted.

5 Functionality not yet in DINA Collections

There are some features that DINA Collections does not currently support, which include:

- Creating reports, print-out labels and other documents.
- Batch editing (editing several records at once).
- Data import through the user interface.
- Literature and references handling.
- Pest control tools.
- Collection inventory tools.
- Automatic data sharing to GBIF or similar.
- Tool to edit options in dropdown lists.
- Special functionality for loans, exchange, gifts, accession and deaccession.