Annex 5
Nagoya and CITES modules

1. INTRODUCTION

ABS and the implementation of the Nagoya protocol (https://absch.cbd.int/) have dramatically changed how new specimens are collected in the field or acquired through other means.

The Nagoya protocol applies if 3 conditions are met :

- collected date after 12 October 2014;
- collected locality in a country that has ratified the protocol;
- The specimen contains genetic resources.

As many of the recent specimens of the APM, RMCA and RBINS are subject to these regulations, while others are subject to CITES rules, the DaRWIN Collections Management System has been extended to deal with these issues for the two federal institutions that use this system. BG-BASE used at APM already contained fields to deal with ABS and Cites issues.Eng

2. METHODOLOGY

The management of the ABS and CITES documents is an obligation for each institution collecting recent biological specimens.

The previous version of DaRWIN was not developed to take this kind of information into account. For RBINS and RMCA, a specific development was thus required to provide the ABS information at the specimen level in the DaRWIN database and also to directly integrate the ABS documents and/or link to an external archive system.

APM has also to develop a procedure to manage both the information at the CMS level and to store the ABS documents.

The development has to be the most open as possible allowing a direct attachment of the ABS documents in the CMS and/or linking to external documents.

The DaRWIN Collection Management System can therefore upload ABS documents directly but we think that this option is not optimal thanks to the complexity of relations between Expeditions, IG and specimens. A single Nagoya document can concern several specimens, several IG or several sampling locations but a single IG can also be related to several ABS documents. This requires uploading the documents in different places creating multiple copie of the documents. It is thus easier to store the ABS and CITES documents in a separate Content Management System and to link in DaRWIN to this unique file location.

3. INFRASTRUCTURE

The management of the ABS and CITES documents is an obligation for each institution collecting recent biological specimens. Each institution can choose how the documents will be managed but the NH project created a CMS server based on Plone to allow this management at the level of the NaturalHeritage level (hub of DiSSCo).

The address is https://nagoya.naturalheritage.be

4. RESULTS

4.1 nagoya.naturalheritage.be

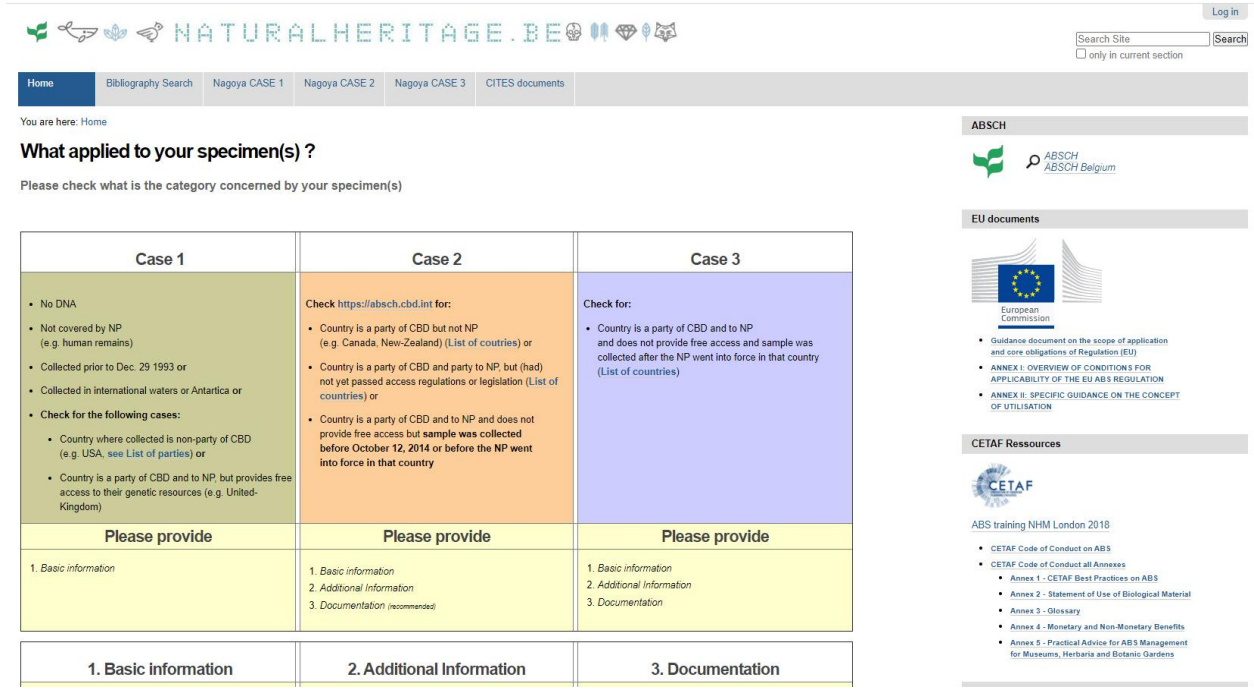

Figure 1. nagoya.naturalheritage.be homepage

The homepage of the nagoya.naturalheritage.be portal is public. The central menu is a matrix of conditions and links which allow the visitor to evaluate if the specimen(s) is (are) concerned by the Nagoya protocol. The results of the matrix link to dedicated spaces to store the requested documents.

The right menu provides links to external resources such as the ABS Clearing House portal, the EU documents and the CETAF documentation.

After login, it is possible to access the Nagoya documents sections and navigate by year. The institutions concerned are displayed in the table. A search function is proposed.

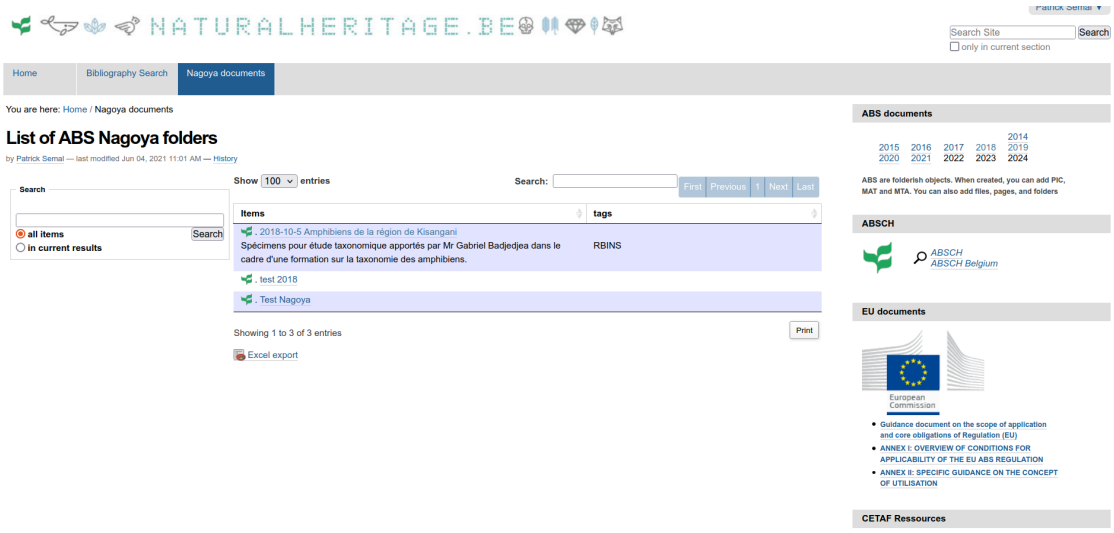

Figure 2. Nagoya Documents section after registration

The “Excel export” option exports all objects of the list in an XLS spreadsheet using one sheet with all defined fields in columns and one line by ABS Object.

Figure 3. Add Nagoya folder menu

The ABS Case 2 and 3 objects are defined by the Title and description

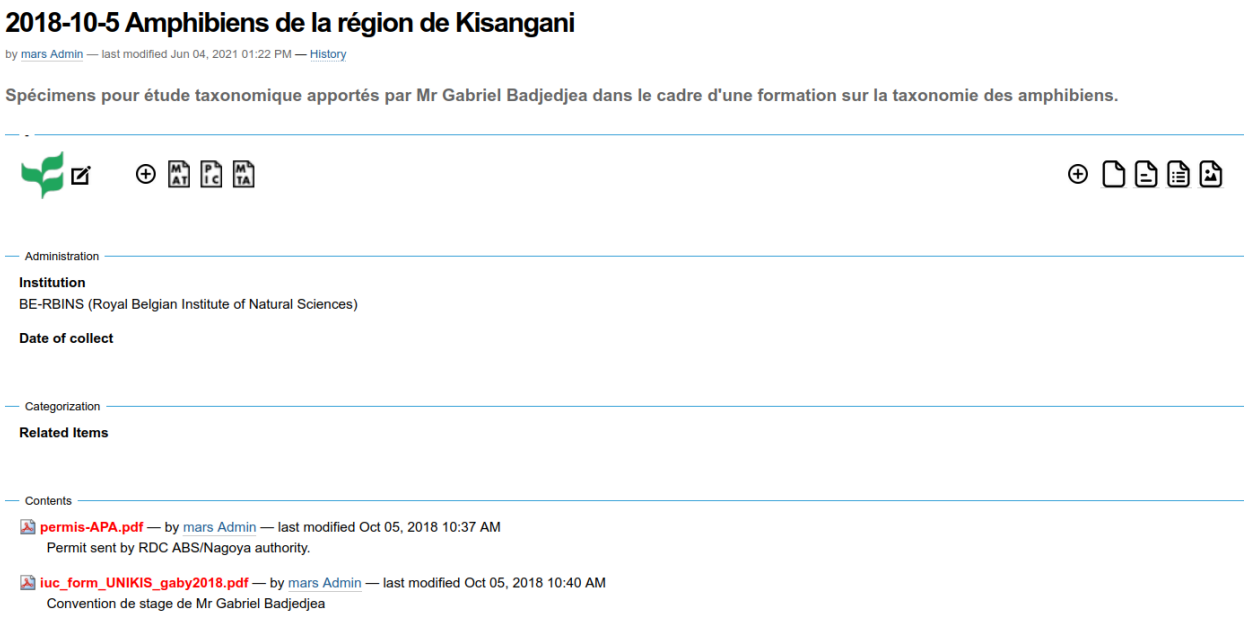

Figure 4. Nagoya Case 2 or 3 Document view

The administration section specifies the Belgian Institution, the date of collect and the country(ies) of origin(s). The first menu on the left allows you to edit the ABS object and to add the associated MAT, PIC and MTA.

Figure 5. Nagoya Document left menu

The second menu on the right allows you to add file(s), webpage, webpage(s) with CSV table and image(s). This menu is also available if you edit the MAT, PIC and MTA objects.

All the permits, CITES documents and associated archives can be uploaded in the adequate object/folder.

It is possible to add several MAT and PIC as the different collects of a fieldwork trip can be related to several agreements.

Figure 6. Nagoya Document right menu

Using Chrome, it is possible to print the ABS object as a pdf with all links active. This allows you to return directly to the attached files or edit the object just by clicking in the printed PDF.

2018-10-5 Amphibiens de la région de Kisangani

by mars Admin — last modified Jun 04, 2021 01:22 PM

Spécimens pour étude taxonomique apportés par Mr Gabriel Badjedjea dans le cadre d'une formation sur la taxonomie des amphibiens.

Administration

Institution
BE-RBINS (Royal Belgian Institute of Natural Sciences)

Date of collect

Categorization

Related Items

Contents

permis-APA.pdf — by mars Admin — last modified Oct 05, 2018 10:37 AM
Permit sent by RDC ABS/Nagoya authority.

iuc_form_UNIKIS_gaby2018.pdf — by mars Admin — last modified Oct 05, 2018 10:40 AM
Convention de stage de Mr Gabriel Badjedjea

Filed under: RBINS

Figure 7. Printed PDF and active links

It is also possible to create a page which will automatically display all the specimens encoded in DaRWIN which are related to this Nagoya folder.

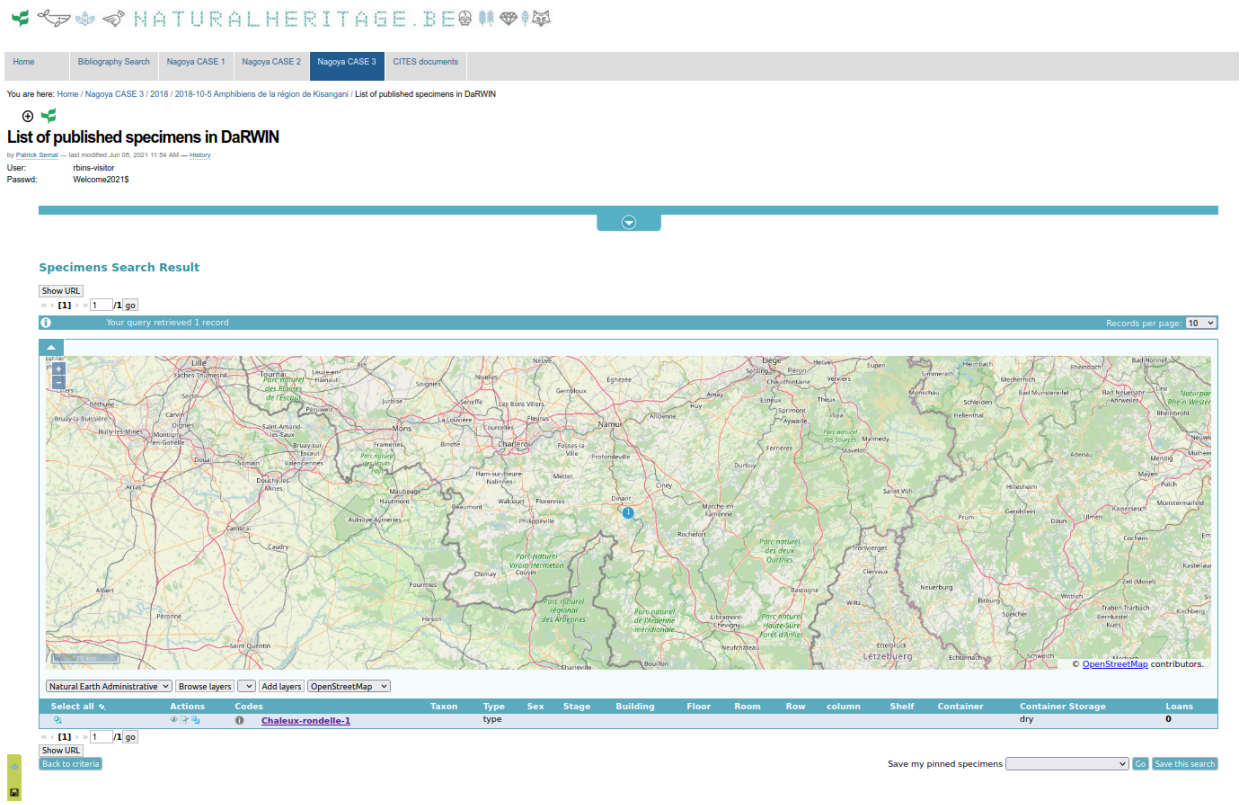

Figure 8. Printed PDF and active links

The following code has to be inserted in the html page to display the list in an Iframe:

<iframe height="2500" src="
https://darwin.naturalsciences.be/backend.php/specimensearch/search/1?specimen_search_filters[link_url]=
https://nagoya.naturalheritage.be/nagoya/2018/2018-10-5-amphibiens-de-la-region-de-kisangani
&&specimen_search_filters[rec_per_page]=10&submit=Search
&menu=off" width="100%"></iframe>

This view is not available though anonymous search but a generic username and password is provided.

User: rbins-visitor / Passwd: Welcome2021$

The ABS Case 1 is not concerned by the Nagoya protocol but it is possible to create the folders to store the documents related to the collect (e.g. permits for collect and or export).

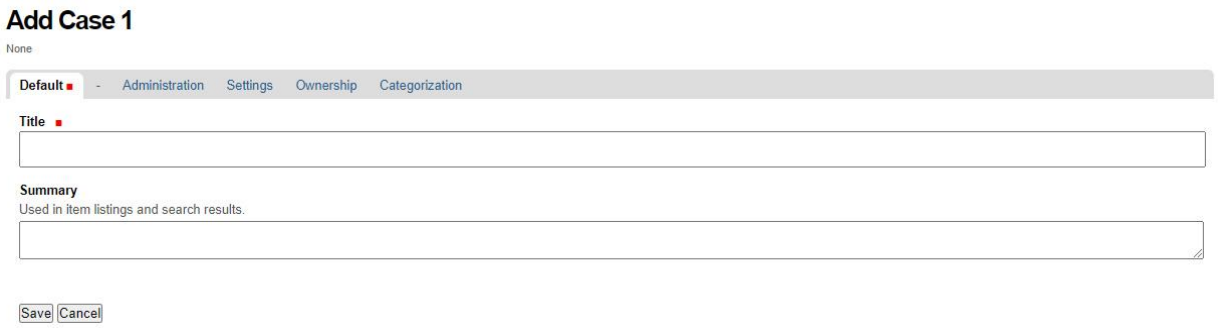

Figure 9. Add view default section (Title and description)

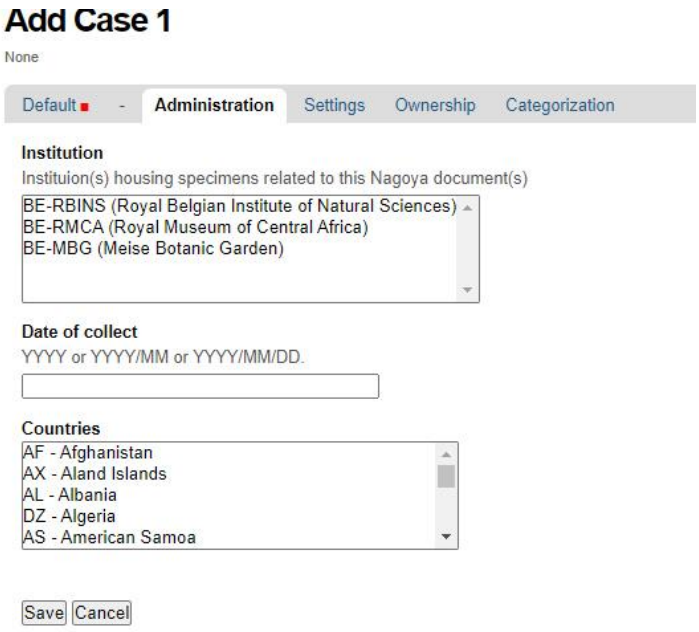

Figure 10. Add view Administration section

The CITES section allows to store the documentation related to CITES regulations.

As for Nagoya documents, It is possible to add file(s), page(s), page(s) with table and Image(s) in the CITES object.

Documents of Nagoya sections and CITES can be related using the related item option available in the categorization section of the Edition menu.

4.2 The ABS Nagoya and CITES developments in DaRWIN

4.2.1 Flag Nagoya

A flag is set for a specimen if it has been collected after 12 October 2014, if the country has a flag “Nagoya” and if the collection containing the specimen has the flag “Nagoya”.

In the edit form of a collection, a combobox has been added for Nagoya, with 3 choices :

- Yes
- No
- Not defined

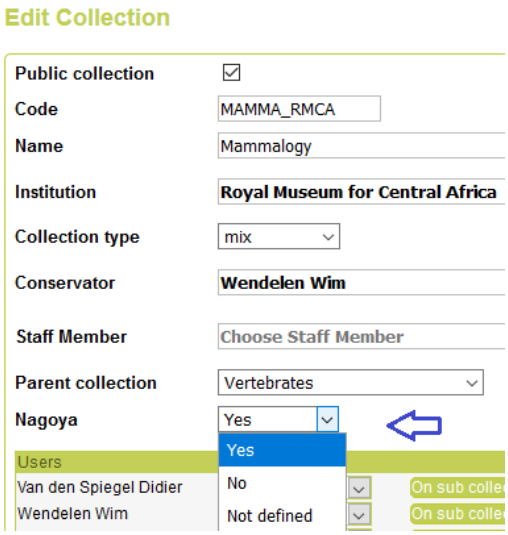

Figure 11. Nagoya in collection edit form

A same combobox has been added in the sampling location :

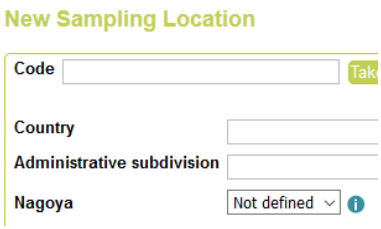

Figure 12. Nagoya in location edit form

A button for information has been added aside the combobox to open an up-to-date website with the most recent list of countries :

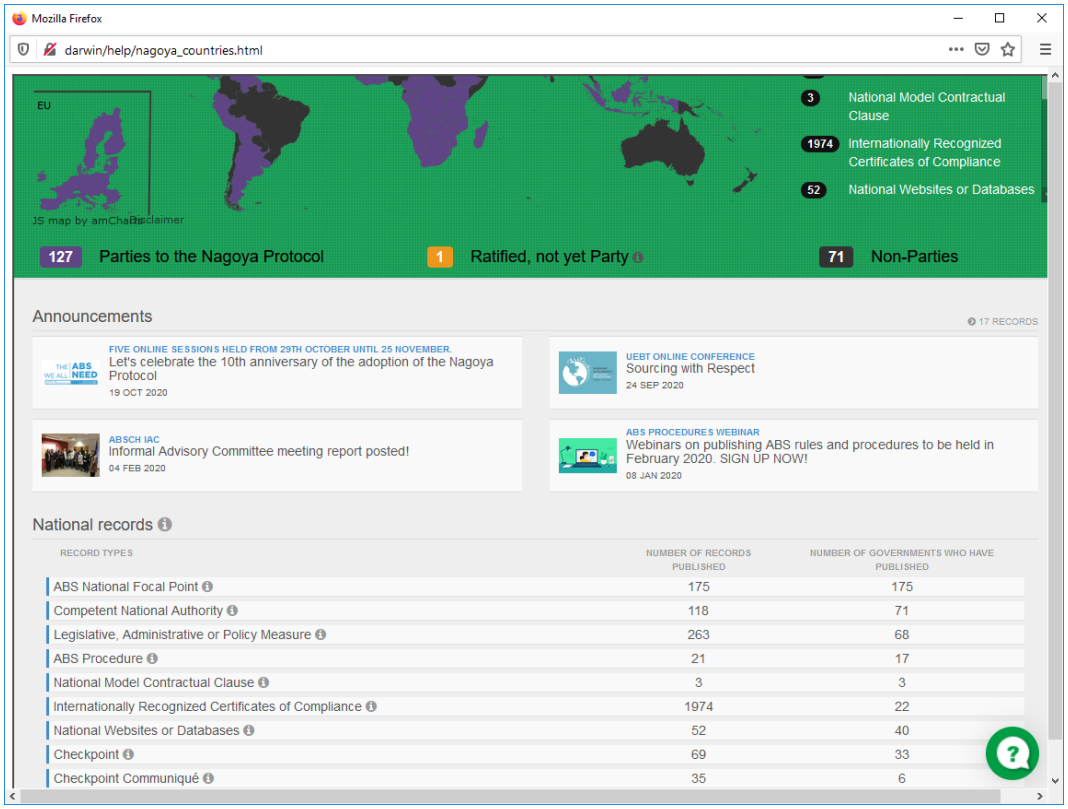

Figure 13. Help screen for the location : countries involved in the Nagoya protocol

In the specimen edit form, a logic has been added to automatically update a new widget Nagoya. If one of the 3 required data (sampling date and location and collection) is not filled or undefined, it's written in the widget that Nagoya protocol is not defined :

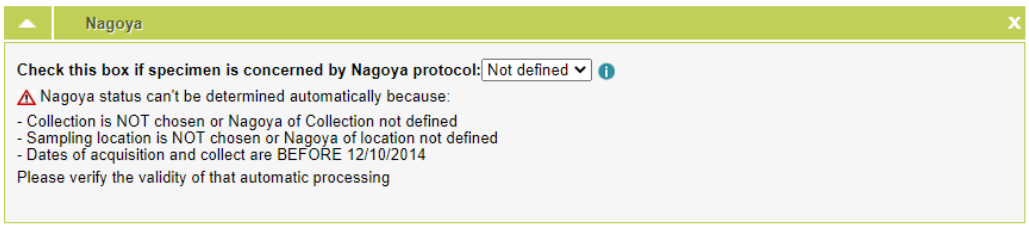

Figure 14. Nagoya in the specimen edit form

An explanation of the calculated value is given, so the user can verify why Nagoya is put to yes, no or undefined. Whatever the result of the calculation, the user can manually change the result to what he wants. Calculation is only a help to fill that field.

4.2.2 Search Nagoya

In the search specimen form, it's possible to search for the Nagoya of the specimens :

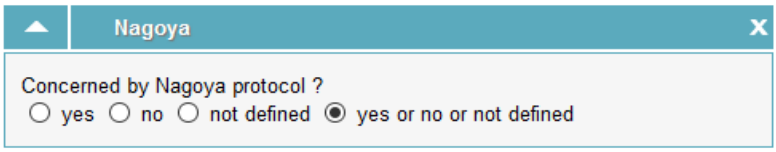

Figure 15. Nagoya widget in the search form

A mass action has also been added to be able to modify values in a lot of specimens in one step

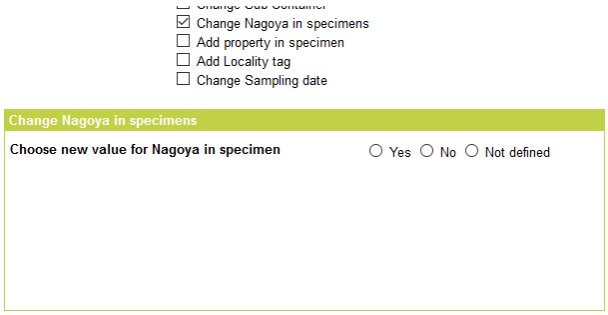

Figure 16. Interface for mass action

4.2.3 CITES

The Help has been added in DaRWIN to determine whether a specimen could be subjected to CITES. As content of listing of the CITES species varies continuously, no value is maintained in DaRWIN.

In the specimen edit form (in widget taxonomy) and in the taxonomy edit form, 2 pages can be reach for help by clicking on the small button "I", the first one to check if a species is in a CITES list and the second one being a complete listing of all CITES species.

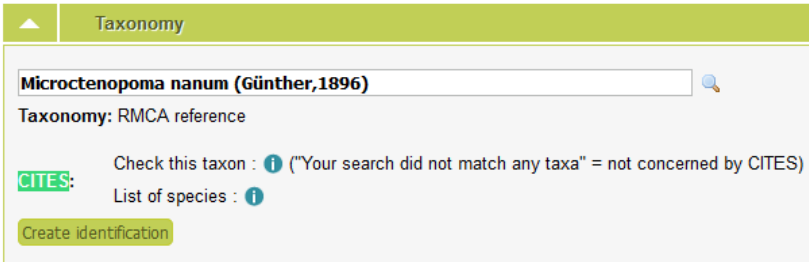

Figure 17. CITES info in widget Taxonomy of the specimen edit form

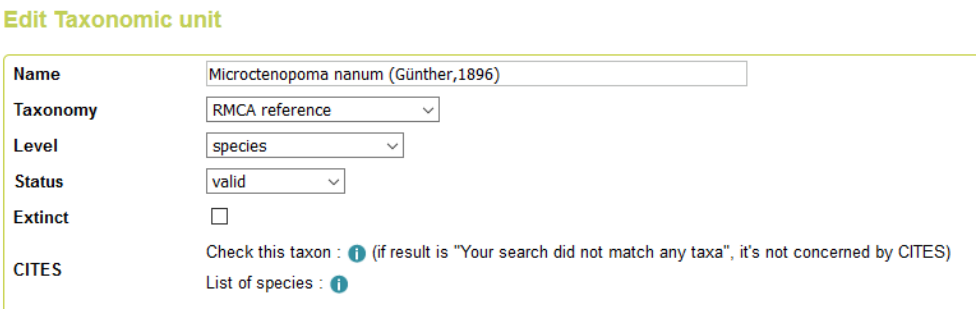

Figure 18. CITES info in the taxonomy edit form

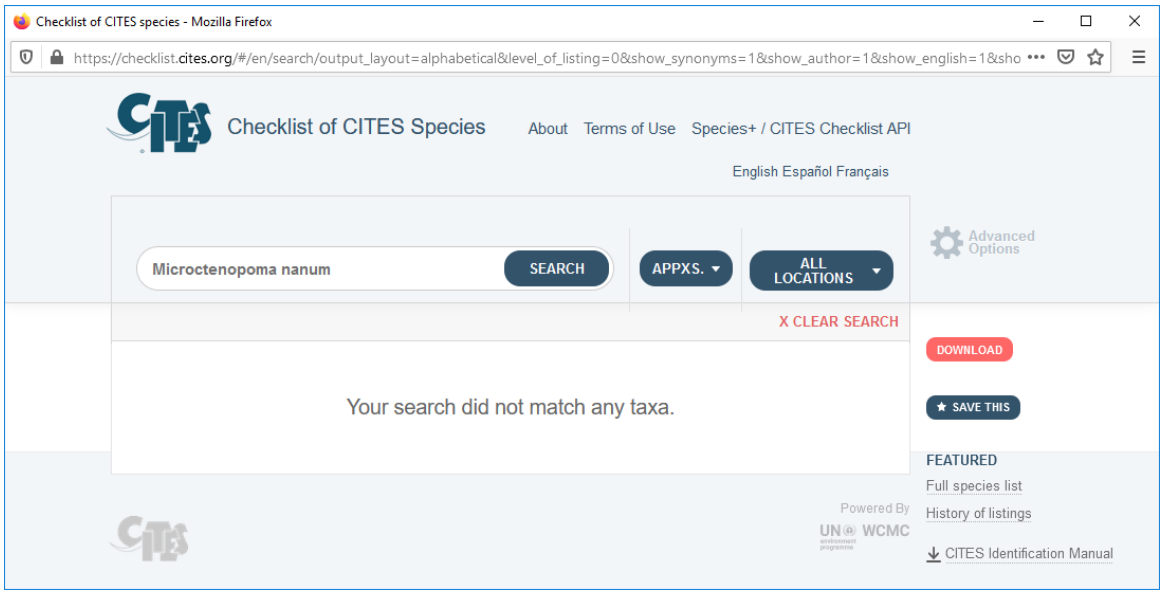

Figure 19. CITES page called by info button. Check for a species

Figure 20. CITES page called by info button. List of all CITES species

4.2.4 Links between DaRWIN and Nagoya.naturasciences.be

The link between the Nagoya documents and the Specimens in DaRWIN is established in DaRWIN using the external link widget.

Figure 21. External link widget

It is also possible to make a search which displays all specimens related to the same external link (identical related url) and display this list in the nagoya.naturalsciences.be CMS using a page with an Iframe.

4.2.5 Users and workflow of nagoya.naturalsciences.be

The nagoya.naturalsciences.be user list is not related to the institution's active directories.

For each institution, a set of usernames and passwords are created but not linked to individual data in order to avoid problems with GDPR. The users are members of Institution groups allowed to see all documents and edit some of them. The delete function was disabled for regular users and the history of all modifications is registered by the system.

4.3 The ABS Nagoya developments at APM

4.3.1 ABS protocol for collections (MTA)

Herbaria and other natural history museums that accept material collected after October 2014 need to be able to demonstrate that the material they hold has been collected in accordance with the principles of the *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) to the Convention on Biological Diversity.* This is a supplementary agreement to the Convention on Biological Diversity. It provides a transparent legal framework for the effective implementation of one of the three objectives of the CBD: the fair and equitable sharing of benefits arising out of the utilization of genetic resources.

Therefore collections and associated information should be managed in a way consistent with the terms and conditions under which the material was acquired from the providing country. For that purpose, institutions should keep records on acquisition of biological material. This means the institution needs to discover rapidly what legal requirements and restrictions are associated with a specimen and, if necessary, efficiently transfer this information to a user in another institution when the specimen or any subsample, part or derivative of it is transferred. The institution also needs to link the different data and information obtained from the use of biological material (such as DNA sequence information) to the original sample or specimen and needs to retain all relevant records and legal information covering genetic resources.

A major challenge is to ensure the comprehensive, transparent and traceable documentation of specimens and associated material and information along the internal workflows.

In APM we make sure that all legal documents and restrictions are uploaded in a shared drive document. Shared with all the collections holding facilities in the Garden. Each file is easily traceable as the filename is uniformly named. The data of these documents and the digital copy of the documents is linked to the different specimens through our collection management system. In this way we are sure that when specimens come in or go out we know which restrictions come with them.

4.3.2 *Collection management -> MTA in Drive*

- A PDF document of the original MTA agreement is made;
- this PDF is then uploaded to a Google Drive folder using the following naming convention for easy access:

Collection management
-> MTA
-> year
-> filename standard:
isocodecountry_year_familyname_BG-BASEDSnumber

4.3.3 MTA in *BG-Base*

DS table

The DS (Data Source) Table is used to store data regarding MTA in BG-BASE. The following metadata is recorded:

- Type of MTA agreement:
  - MAT - Mutually Agreed Terms
  - PIC - Prior Informed Consent
  - PICMAT - Prior Informed Consent / Mutually Agreed Terms
  - CBD - Convention on Biological Diversity (CBD) form
  - XXX - other (for example, a collecting permit)
- Direction of the MTA:
  - incoming (covers material coming into our institution, and may restrict what we can do with this material)
  - outgoing (covers material being sent out from our institution, and may restrict what the recipient can do with this material)
  - both (covers material coming into our institution as well as material leaving our institution, and may restrict what we and/or the recipient can do with this material)
- Who requested the permission;
- From whom the permission has been requested;
- Start and End Date and or Duration of the agreement;
- Type of agreement agreed upon - this is a multi-value field which may contain combinations of various types of agreements, also each option has an associated notes field which can contain specific conditions:
  - DNB - do not use material for breeding/hybridizing
  - DND - do not distribute / loan / exchange

    - DNE - do not extract/analyze DNA
    - DNP - do not propagate
    - DNS - do not sell
    - ISB - inform source if material is used for breeding
    - ISD - inform source if material is distributed / loaned / exchanged
    - ISE - inform source if DNA is extracted or analyzed
    - ISP - inform source if material is propagated
    - ISS - inform source if material is sold
    - ISU - inform source if material is published about
    - UEP - use for educational purposes only
    - USP - for use by staff and research partners only
    - SCP - share any commercial profits
    - PBR - Plant Breeders Rights
    - PVR - Plant Variety Rights
    - CIP - credit in publication(s)
    - IPEN - can share with other IPEN institutions
    - PHY - phytosanitary certificates
    - POP - proof of posting / waybill
    - PAS - plant passport
    - NR - no restrictions [do not use with any other code]
    - NAR - no additional restrictions (use in situations where the MTA document does not impose restrictions above and beyond the institution's "standard" restrictions)
    - U - uncertain [do not use with any other code]
- An MTA summary title of the restriction - this attached the associated herbarium specimens and living accessions to give users in BG-BASE an indication of the type of restriction:
- A URL link to the document stored on Google Drive.

DS records with MTAs are attached to relevant Specimens (Preserved Collections) and Accessions (Living Collections) in their relative tables.

4.3.4 CITES in *BG-Base*

CITES information is stored in the NAMES and DISTRIBUTIONS table in BG-BASE. These tables are concerned with the specific taxon in question and their distribution. The latter is important as legal aspects can vary depending on the geographic location concerned. Areas covered by Conservation status are:

- IUCN Red Data Book category
- CITES
- The global rank as assigned by The Nature Conservancy
- Regional legal requirements for Belgium

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