# D13 – DELIVERABLE 5.2.0

**Project Acronym:** **OpenUp!**

**Grant Agreement No:** 270890

**Project Title:** **Opening up the Natural History Heritage for Europeana**

## Local botanical provider software and metadata mapping functional for all data sources

**D13 – C5.2.0**

**Consistent with MS10**

**Revision: 4a**

| Project co-funded by the European Commission within the ICT Policy Support Programme | | |
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| **Dissemination Level** | | |
| P | **Public** | X |
| C | **Confidential, only for members of the consortium and the Commission Services** | |

# 0 REVISION AND DISTRIBUTION HISTORY AND STATEMENT OF ORIGINALITY

## Revision History

| Revision | Date | Author | Organisation | Description |
|---|---|---|---|---|
| Draft 1 | 2012-07-03 | B. Jacob, J. Hoffmann, M. Kempa, F. Theeten | MRAC, MFN, IBSAS, MRAC | First draft, including information on provider software technical set-up |
| Draft 2 | 2012-08-06 | B. Jacob, F. Theeten | MRAC | Inclusion of discussion and recommendation, update of provider software technical set-up |
| Draft 3 | 2012-08-14 | M. Kempa | IBSAS | Incorporation of changes and comments from partners in WP4 and WP5. |
| 4 | 2012-08-21 | M. Kempa | IBSAS | Incorporation of changes and comments from content providers |
| 4a | 2012-08-29 | Coordination Team | BGBM | Minor editing |

## Statement of Originality

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

## Distribution

| Recipient | Date | Version | Accepted YES/NO |
|---|---|---|---|
| WP5 content providers (FUB-BGBM, NHM, IBSAS, NHMW, NM, ETI, UCPH, RBGE, UH, RBGK, NCBN, NBGB, UT-NHM, LandOOE) | 2012-08-14 | Draft 3 | Yes |
| Work package leader (Karol Marhold, IBSAS) | 2012-08-14 | Draft 3 | Yes |
| Work Package Leader (Karol Marhold, IBSAS) Project Coordinator (W. Berendsohn, BGBM), | 2012-08-22 2012-08-30 | 4 4a | Yes Yes |

# Table of Contents

# 1   INTRODUCTION

This deliverable shows the state-of-the-art in the task of local data provision for botany in WP5 (task 5.2). The aim for August 2012 (project month 18) is that every content provider has set up a *BioCASe Provider Software* (BPS) installation and has mapped at least one data source to the *Access to Biological Collection Databases* (ABCD)[1] schema.

The BioCASe Provider Software (BPS)[2] is used to connect the content provider's data sources with Europeana and GBIF, via the OpenUp! metadata repository. This set of open-source tools was developed in the course of the EU-funded BioCASE project (2001- 2004). As of July 2012 BPS exists in version 3.2, but older versions are still in use among members of the OpenUp! project without any problems[3].

OpenUp! uses the metadata schema ABCD to unify the data and make the mapping to. The ABCD schema is an accepted standard of the organization Biodiversity Information Standards (TDWG) and it is widely used to provide data to the Global Biodiversity Information Facility (GBIF). A mapping between ABCD and ESE is provided in the OpenUp! Guidelines [6].

The data on the content providers' installations and mapping used in this deliverable have been compiled manually and automated. The internal spreadsheet Data Provision Plan: Technical Setup has been used to monitor the progress of the installations and mappings to ABCD and ESE. The BioCASe Monitor Service[4], developed by WP4 and WP7, has then been used to produce automated reports on the installation. This mechanism allows a constant monitoring of multimedia objects by partner and data source provided through the BPS installation. The same mechanism is used to register and monitor new data sources from old content provider or new BPS installations and data sources from new partners to the project[5].

Because of the identical technical setup (BPS, ABCD standard) and, in some cases, the provision of zoological and botanical content by the same content provider the Monitor Service is jointly used by both OpenUp! work packages, WP4 (zoology) and WP5 (botany).

# 2   OVERVIEW OF TECHNICAL STATUS

This chapter shows the state-of-the-art of the BPS technical set-up and the mapping of the data sources to ABCD. All 14 partners have set up a BPS and provided us with an access point URL (see table under 2.1).

## 2.1   *Provider software technical set-up*

The table hereunder gives an update on the technical set-up of the BPS of WP5 content providers. It lists the beneficiary number and the partner, the access point URL and the version of the BPS used (see also Chapter 3.1: Usage of different BioCASe Provider Software versions).

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[1] ABCD schema description: http://www.tdwg.org/standards/115/, August 22, 2012

[2] See BPS description: http://www.biocase.org/products/provider_software/, August 22, 2012

[3] See BPS version history: http://wiki.bgbm.org/bps/index.php/VersionHistory, August 22, 2012

[4] BioCASe Monitor Service v.1: http://edit.africamuseum.be/biocasemonitor/, August 22, 2012

[5] See C5.4.1 Data quality check feedback (botany)[4].

**Table 1: Overview of BPS installations of all WP5 content providers, status: August 28, 2012.**

| Beneficiary No. | Acronym | Access point URL (public) | BPS version |
|---|---|---|---|
| 1 | BGBM (FUB-BGBM) | http://ww3.bgbm.org/biocase/ | 3.2 |
| 2 | NHM | http://services.nhm.ac.uk/BioCASe/ | 3.0 |
| 4 | IBSAS | http://dataflos.sav.sk:8080/biocase/ | 2.5.3 |
| 5 | NHMW | http://131.130.131.9/biocase/ | 3.0 |
| 7 | NM | http://pm.nm.cz/biocase/ | 3.0RC2 |
| 8 | ETI | http://openup.etibioinformatics.nl/biocase/ | 2.6.0 |
| 12 | UCPH | http://develprovider.danbif.dk/biocase/ | 3.0 |
| 13 | RBGE | http://elmer.rbge.org.uk/biocase/ | 3.2 |
| 15 | UH | http://pontikka.fmnh.helsinki.fi/biocase/ | 3.0 |
| 16 | RBGK | http://data.kew.org/biocase/ | 3.0 |
| 17 | NCBN | http://openup.naturalis.nl/biocase http://132.229.167.153:8080/biocase (test) | 3.2 |
| 18 | NBGB | http://biocase.br.fgov.be/biocase/ | 2.6.1 |
| 20 | UT-NHM | http://hermes.ut.ee/biocase/ | 3.2 |
| 23 | LandOOE | http://www.zobodat.at/biocase/ | 3.0 |
| | | | |

## 2.2 Mapping

The table hereunder lists the data sources of the content providers, it shows the beneficiary number and the partner acronym[6], the data source alias, a description of the data set[7], the access point URL, the domain of the data source (zoology, botany, paleontology, mineralogy, anthropology), and the schema (ABCD) and version used.

Currently, all 14 content providers have finalized the mapping of at least one botanical data source. In total, there are 35 registered data sources.

**Table 2: Overview of data sources mapping of all WP5 content providers, status: August 29, 2012**

| No. | Acronym (Benefic. No.) | Data set title | Data source description | Access point URL (public) | Domain | Schema & Version |
|---|---|---|---|---|---|---|
| 1 | BGBM (1) | Herbar | This is the access point to our herbarium database also used for GBIF and BioCASE purposes | http://ww3.bgbm.org/biocase/ dsa_info.cgi?dsa=Herbar | Botany | ABCD 2.06 |

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[6] Acronyms according to [5] (A2: List of Beneficiaries). Acronyms/abbreviations in the BioCASe Monitor v1.0 may vary

[7] "Data set title" from the *BioCASe Monitor*; "connected data sources" and "Data source description" from the *data provision plan technical set-up document (restricted access)*

| No. | Acronym (Benefic. No.) | Data set title | Data source description | Access point URL (public) | Domain | Schema & Version |
|---|---|---|---|---|---|---|
| 2 | BGBM (1) | Herbar_OpenUp | This is an additional access point which is used to provide raw images to Europeana so that they can create thumbnails | http://ww3.bgbm.org/biocase/dsa_info.cgi?dsa=Herbar_OpenUp | Botany | ABCD 2.06 |
| 3 | NHM (2) | ABCD_Create | Test version | http://services.nhm.ac.uk/BioCASe/pywrapper.cgi?dsa=ABCD_Create | Botany & Zoology | ABCD 2.06 |
| 4 | IBSAS (4) | Dataflos | Database of Flora of Slovakia | http://dataflos.sav.sk:8080/biocase/pywrapper.cgi?dsa=dataflos | Botany | ABCD 2.06 |
| 5 | NHMW (5) | openUp | Herbarium WU, Herbarium of the University of Vienna | http://131.130.131.9/biocase/pywrapper.cgi?dsa=openUp | Botany | ABCD 2.06 |
| 6 | NM (7) | Botany | Botanical collection of the National Museum | http://pm.nm.cz/biocase/pywrapper.cgi?dsa=Botany | Botany | ABCD 2.06 |
| 7 | ETI (8) | AnnoGW | Annonaceae, genera worldwide | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=AnnoGW | Botany | ABCD 2.06 |
| 8 | ETI (8) | AnnoNGS | Annonaceae, neotropical genera and species | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=AnnoNGS | Botany | ABCD 2.06 |
| 9 | ETI (8) | Dava | Davalliaceae a family of Old World (sub-)tropical ferns | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=Dava | Botany | ABCD 2.06 |
| 10 | ETI (8) | FlorBlur | Flora of the Burren and South East Connemara | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=FlorBur | Botany | ABCD 2.06 |
| 11 | ETI (8) | FMCaes | Flora Malesiana: Leguminosae, Caesalpinioideae of South East Asia | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=FMCaes | Botany | ABCD 2.06 |
| 12 | ETI (8) | FMMimo | Flora Malesiana: Leguminosae, Mimosoideae of South East Asia | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=FMMimo | Botany | ABCD 2.06 |
| 13 | ETI (8) | HIFN-2 | Heukels' Interactieve Flora van Nederland | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=HIFN-2 | Botany | ABCD 2.06 |
| 14 | ETI (8) | IFBI | Interactive Flora of the British Isles | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=IFBI | Botany | ABCD 2.06 |
| 15 | ETI (8) | Krom | Nature and Culture in the Tropics, Krommenhoek | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=Krom | Botany | ABCD 2.06 |
| 16 | ETI (8) | OrchNG | Orchids of New Guinea (1) | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=OrchNG | Botany | ABCD 2.06 |

| No. | Acronym (Benefic. No.) | Data set title | Data source description | Access point URL (public) | Domain | Schema & Version |
|-----|------------------------|----------------|-------------------------|----------------------------|--------|------------------|
| 17 | ETI (8) | OrchNG_2 | Orchids of New Guinea (2) | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=OrchNG_2 | Botany | ABCD 2.06 |
| 18 | ETI (8) | OrchPh | Flora Malesiana: Orchids of the Philippines | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=OrchPh | Botany | ABCD 2.06 |
| 19 | ETI (8) | PROSEA_EFN | Plant Resources of South East Asia: Edible fruits and nuts | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=PROSEA_EFN | Botany | ABCD 2.06 |
| 20 | ETI (8) | PROSEA_Veg | Plant Resources of South-East Asia - Vegetables | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=PROSEA_Veg | Botany | ABCD 2.06 |
| 21 | ETI (8) | UPlant | Useful Plants - An Introduction to Economic Botany | http://openup.etibioinformatics.nl/biocase/pywrapper.cgi?dsa=UPlant | Botany | ABCD 2.06 |
| 22 | UCPH (12) | kinorrhynca | Kinorrhyncha types at Natural History Museum of Denmark | http://develprovider.danbif.dk/biocase/pywrapper.cgi?dsa=kinorrhynca | Botany & Zoology | ABCD 2.06 |
| 23 | UCPH (12) | HerbariumC | Database of botanical type specimens at Herbarium C, Natural History Museum of Denmark (Museum Botanicum Hauniense) | http://develprovider.danbif.dk/biocase/pywrapper.cgi?dsa=HerbariumC | Botany | ABCD 2.06 |
| 24 | RBGE (13) | Openup_accessions | Royal botanic Garden Living Collection | http://elmer.rbge.org.uk/biocase/pywrapper.cgi?dsa=Openup_accessions | Botany | ABCD 2.06 |
| 25 | RBGE (13) | Openup_specimens | | http://elmer.rbge.org.uk/biocase/pywrapper.cgi?dsa=Openup_specimens | Botany | ABCD 2.06 |
| 26 | RBGE (13) | Openup_illustrations | | http://elmer.rbge.org.uk/biocase/pywrapper.cgi?dsa=Openup_illustrations | Botany | ABCD 2.06 |
| 27 | UH (15) | Luomus_botany | | http://pontikka.fmnh.helsinki.fi/biocase/pywrapper.cgi?dsa=luomus_botany | Botany | ABCD 2.06 |
| 28 | RBGK (16) | Kdb01 | RBGK Herbarium Specimens | http://data.kew.org/biocase/pywrapper.cgi?dsa=kdb01 | Botany | ABCD 2.06 |
| 29 | NCBN (17) | NBCN-botany | | http://132.229.167.153:8080/biocase/pywrapper.cgi?dsa=NBCN-botany | Botany | ABCD 2.06 |
| 30 | NCBN (17) | NBCN-botany-artwork | | http://132.229.167.153:8080/biocase/pywrapper.cgi?dsa=NBCN-botany-artwork | Botany | ABCD 2.06 |

| No. | Acronym (Benefic. No.) | Data set title | Data source description | Access point URL (public) | Domain | Schema & Version |
|-----|------------------------|----------------|-------------------------|---------------------------|--------|------------------|
| 31 | NCBN (17) | NBCN-botany-mellon | | http://132.229.167.153:8080/biocase/pywrapper.cgi?dsa=NBCN-botany-mellon | Botany | ABCD 2.06 |
| 32 | NBGB (18) | Nbgb-openup | National Botanic Garden, Belgium | http://biocase.br.fgov.be/biocase/pywrapper.cgi?dsa=nbgb-openup | Botany | ABCD 2.06 |
| 33 | UT-NHM (20) | University_of_Tartu_Natural_History_museum_botanical | Botanical collections of the University of Tartu | http://hermes.ut.ee/biocase/pywrapper.cgi?dsa=University_of_Tartu_Natural_History_museum_botanical_openup | Botany | ABCD 2.06 |
| 34 | UT-NHM (20) | University_of_Tartu_Natural_History_museum_mycological | Mycological collections of the University of Tartu | http://hermes.ut.ee/biocase/pywrapper.cgi?dsa=University_of_Tartu_Natural_History_museum_mycological_openup | Botany | ABCD 2.06 |
| 35 | LandOOE (23) | openup | ZOBODAT (Zoological Botanical Database | http://www.zobodat.at/biocase/pywrapper.cgi?dsa=openup | Botany & Zoology | ABCD 2.06 |

# 3   DISCUSSION AND RECOMMENDATION

## 3.1   *Usage of different BioCASe Provider Software versions by data providers*

Six different versions of the BioCASe provider software are currently in use by OpenUp! botanical content providers (see table 3).

The main reason of using the selected version by the providers is that it was the newest version available at the time of connecting the data source. Most of the providers do not plan to upgrade to the newer version, especially those who are using software of version 2.6.1. or higher.

**Table 3: Overview of installed BPS versions**

| Version | No. | Partner's Acronym |
|---------|-----|-------------------|
| 2.5.3 | 1 | IBSAS |
| 2.6.0 | 1 | ETI |
| 2.6.1 | 1 | NBGB |
| 3.0 | 6 | NHM, NHMW, UCPH, UH, RBGK, LandOOE |
| 3.0 RC2 | 1 | NM |
| 3.2 | 3 | BGBM, UT-NHM, RBGE, NCBN |

For the differences among version and their compatibility see Deliverable D12 [3], chapter 3.1.

## 3.2   *Usage of multiple botanical data sources per provider*

For explanation of multiple data sources see [3], chapter 3.2.

## 3.3   *Separate botanical data sources for OpenUp! and GBIF*

For explanation of usage of separate data sources for OpenUp! and GBIF see [3], chapter 3.3.

## 3.4   *Separate botanical data source for metadata and thumbnails[8]*

 For explanation of usage of separate data sources for metadata and thumbnail creation see [3], chapter 3.4.

# 4   CONCLUSION AND OUTLOOK

As in the case of WP4 (see [3], chapter 4), the next steps are the improvement of the existing ABCD mappings of data sources already connected via the BPS, in order to make the widest possible choice of data available and accessible. In addition, new data sources will be connected either by existing or new content providers in order to achieve the project's goals. The progress in content provision of each partner will be constantly monitored with the BioCASe Monitor Service.

A major improvement will be the shift from the existing ESE standard to the new EDM, which may also require some changes in the existing mapping of OpenUp! data sources. The OpenUp! Helpdesk (WP7) and the content providing work packages 4 and 5 will support the OpenUp! content providers in this task .

# 5   ACKNOWLEDGEMENTS

# 6   LIST OF REFERENCES

[1] Holetschek, J., 2012: http://wiki.bgbm.org/bps/index.php/Archiving

[2] Holetschek, J., 2012: http://wiki.bgbm.org/bps/index.php/VersionHistory

[3] Jacob, B., Hoffmann, J., Theeten, F., Addink, W., 2012: C4.2.0 - Local zoological provider software and metadata mapping functional for all data sources

[4] C5.4.1 Data quality check feedback (botany)

[5] Opening up the natural history heritage for Europeana, Annex I - Description of Work

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[8] As described in: http://open-up.cybertaxonomy.africamuseum.be/ProtectionAndFirewall, August 22, 2012

[6] Theeten, F., Roca Ristol, P., Jacob, B. & Jõgeva, B., 2012: Guidelines for users and content providers v. 1.: http://open-up.eu/sites/open-up.eu/files/u2/D09-D714_Guidelines_for_users_and_content_providers_v1_MRAC.PDF

[7] Theeten, F., 2011: http://open-up.cybertaxonomy.africamuseum.be/ProtectionAndFirewall

[8] Theeten, F., 2011: http://open-up.cybertaxonomy.africamuseum.be/forum_topic/upgrading_biocase_installation

# 7  LIST OF TABLES