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eContentplus

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¹ OJ L 79, 24.3.2005, p. 1.

0 Document History

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0.2 Reviewers

This document requires the following reviews and approvals.

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2 Summary

The main objectives of the reporting period (November 2010 to April 2011) of the project were:

- (1) Adapt, enhance and finalise the prototype of a virtual taxonomic library.
- (2) Evaluate and compile processes used by BHL-Europe partners for the digitisation of biodiversity content.
- (3) Evaluate and review approaches for the establishment and management of multilingual biodiversity digital libraries.
- (4) Review state-of-the-art technologies used by Europeana and BHL for processing digital content.
- (5) Design and implementation of a multilingual access point for the search and retrieval of biodiversity content through at least two portals (Europeana and BHL-Europe).
- (6) Make BHL-Europe content available for harvesting by Europeana.
- (7) Define and agree on requirements of BHL-Europe content providers regarding metadata schema (standards and specifications, best practice, use cases).
- (8) Define the user requirements involving the proposed target users of BHL-Europe.
- (9) Begin implementation of the technical and functional architecture of the BHL-Europe system.
- (10) Develop operational strategies and processes for long-term preservation and sustainability of the data produced by national biodiversity digitisation programmes.
- (11) Raise awareness and ensure that the project outputs are known and used by the target users and that the proposed approach directly addresses user needs.
- (12) Negotiate with rights holders and publishers to enable access to in-copyright content.
- (13) Extend the network of content providers.

BHL-Europe provides four access points to the digital biodiversity literature of the partner libraries: the Global References Index to Biodiversity (GRIB), the multilingual BHL-Europe portal, Europeana and Global BHL. With the end of this reporting period we have finalised the GRIB and prepared the system for the soft launch in May 2011. The German prototype (D3.6) was released in November 2010 and is now re-factored into a Drupal 7 portal. The Pre-Ingest, the Data Management and the Archival Storage components of the BHL-Europe system are now set up and tests are running with the content already uploaded to our hardware infrastructure. We now also provide access to ten collections of BHL-Europe content providers through Europeana.

The results of our consensus building process of the first months of the project are now incorporated in the first draft of our best practice guide. We successfully extended the content provider network and have strategies in place for the further extension in the final project year and beyond. We are actively disseminating the project and its results. BHL-Europe is continuously involved in activities and processes of Europeana, mainly through the Europeana Group of Projects activities and the Council of Content Providers and Aggregators. We also have a first concept for a sustainable BHL-Europe after the end of the project in April 2012.

3 Status

3.0 Status and progress of activities

3.0.1 Status and progress of activities – WP1

3.0.1.1 Deliverables and reporting to the EC

The submitted deliverables (D1.4 and D3.6) and those revised and resubmitted for the Intermediate Review Meeting in November/December 2010 (D1.2, D1.3, and D2.4) were approved by the 2nd Intermediate Review Report (ARES registration (2010) no°963388 – 17 December 2010).

Nine deliverables were submitted in this reporting period. Together with this ‘Progress Report 4’ (**D1.6**) the deliverables **D1.5** – ‘First overview of the business plan for the long term sustainability’, **D1.7** – ‘Annual Report 2’, **D2.5** – ‘Final and enhanced Web-database for content management and collection analysis’, **D2.6** – ‘First version of the approved best practice guidelines and standards’, **D2.7** – ‘Content analysis and management status report 2’, **D3.7** – ‘Key components documented for output of D3.5’, **D4.2** – ‘Complete signed agreements with the first group of right holders to enable material to be used in the BHL or Europeana, and establish process for addition of further material’, and **D4.3** – ‘IPR framework to support long-term access and sustainability of the digitised material’ will be submitted to the EC in May 2011.

3.0.1.2 Resource planning, monitoring and controlling

The project coordination, project partners and BHL-Europe associates followed the project progress on the BHL Wiki. They used the information provided for planning tasks and meetings as well as for the preparation of their reports. The 2nd pre-financing instalments were transferred to the partners.

The Project Coordinator has the right to retain any payment towards a Beneficiary who is late in submitting or refuses to provide deliverables as defined in the Grant Agreement, Annex II.3 provided that the delay or refusal is attributable to the Beneficiary (Consortium Agreement 6.5). This was the case for some individual partners in terms of reporting duties (activity and status reports) and resulted in a delayed transfer of the 2nd instalment to the respective partner. However the progress reports are explicitly mentioned as deliverables for BHL-Europe (Grant Agreement, Annex II.3) and as every progress report is the summary and compilation of all activity and status reports of our partners, these monthly and quarterly reports mentioned in section 4.4 above are also part of that deliverable. This process was monitored and discussed in the regular PMG calls. Furthermore some of the partners provided incorrect accounting details which then further delayed the transfer. The respective partners eventually fulfilled their tasks and the budget was transferred.

3.0.1.3 PMG conference calls and communication

PMG calls were held regularly to communicate project progress and discuss pressing topics in the Project Management Group, except for occasions when the PMG met personally or when a large number of PMG members were not available. Three PMG calls were held as open calls to allow all consortium members to call in. To date, this opportunity has not been used by many BHL-Europe staff members, but has proven to be a very useful way of

communication. One positive side effect of these open calls was to further various important project tasks. The dates and minutes of all PMG calls are provided on the [BHL Wiki](#)².

An email server was set up by UBER to facilitate internal project communication. The following mailing lists are running on SYMPA and are in current use: bhl-e@lists.hu-berlin.de - BHL-Europe partners and associates; bhl-e.cp@lists.hu-berlin.de – BHL-Europe content provider; bhl-e.newsletter@lists.hu-berlin.de – BHL-Europe Newsletter mailing list.

3.0.1.4 *Recruitment of new BHL-Europe employees*

Several of our partners were able to employ new staff members for BHL-Europe tasks. We welcome them to the BHL-Europe team.

Muriel Amar (BnF) is a librarian and the right hand of Frédéric Martin, head of the department of Gallica.

Manuel Sanchez (CSIC) is official collaborator of the CSIC team for BHL-Europe. He is actively contributing in the digitisation, building of metadata and other tasks with Marian Ramos and Antonio Valdecasas.

Jiří Frank (NMP) was officially working for BHL-Europe since 15 January and was selected to lead the virtual exhibition sub-project.

A number of colleagues left the project in this reporting period or will do so at the end of this reporting period. We gratefully acknowledge their contribution to the BHL-Europe project.

Kees Hendriks (NAT) left the NCB Naturalis and therefore also the BHL-Europe team 1 December 2010. He started working for the Cultural Heritage Agency of the Netherlands. Tom Gilissen will be the primary NCB Naturalis contact person for BHL-Europe.

Adrian Smales (NHM), WP3 work package leader, leaves the project end of April. Graham Higley will become acting lead of WP3 with support of the work package's project manager Lola Obajuluwa (NHM) and Chris Sleep (NHM). The handover was completed in April.

Lesa Ng's (RBGE) contract for BHL-Europe ends in April. She was responsible for data upload and metadata control, thus mainly working in WP 2 of BHL-Europe.

3.0.1.5 *Contractual meetings*

The Content Provider and Technical Meeting was held in London in the first days of December (30 November - 3 December 2010) and organised by NHM and MfN. The agenda and relevant minutes of the meeting can be found on the [BHL Wiki](#)³.

The second intermediate review meeting was scheduled for 30 November. This review was based on the revised deliverables presented in Vienna in May, the new deliverables for M15 and M18 and the hardware setup at NHM. The WP leader, the project management assistant and various invited experts represented the project's progress and deliverables. Our EC desk officer and the two external reviewers were present and we received a green flag from the EC. The review report is available on the [BHL Wiki](#)⁴.

In the morning of 1 December, the BHL-Europe progress report (project progress) was presented to the consortium in a plenary session. Afterwards, we had an update on Europeana and an introduction to the new OpenUp! project that started in March 2011. During the meeting in London, six working groups were scheduled over the two days of the content

² https://bhl.wikispaces.com/BHL-E_PMG_calls

³ https://bhl.wikispaces.com/BHLE_Fall+Meeting_agenda

⁴ https://bhl.wikispaces.com/BHLE_review_reports

provider meeting and were introduced in the plenary session. After lunch, the working groups were established and began their meetings:

- (1) The **Best Practice Guide Workgroup** meeting was a follow-up of the workshop held in Linz a few weeks before the London meeting (for more information see WP2 section of this report).
- (2) The **GRIB Workgroup** meeting was divided into two sessions: BHL-Europe & GRIB data workflow and deduplication, dealing with different scenarios of integrating the GRIB into the BHL-Europe system, and the GRIB Review.
- (3) During the **Communication Working Group (CWG)** meeting the organisation of the WP5 work among the two major partners (NMP and RBINS) and current open tasks were discussed. Creating a concept for the virtual exhibitions that BHL-Europe is going to build was the major task for this meeting. Furthermore, a new workflow was established to acquire content for BHL-Europe's social media (Weblog, Facebook, Twitter) that can be re-used for the Web site and for the quarterly newsletter.
- (4) The **BHL-Europe Portal Development Workgroup** meeting was divided into two sessions, the first dealing with taxonomic intelligence; the second focussing on other portal development questions.
- (5) The **Pre-Ingest Round Table** was held with BHL-Europe content providers to discuss Pre-Ingest guidelines and procedures implemented by AIT. The meeting provided deeper insights into the Pre-Ingest development process and information about the future roadmap.
- (6) The outcomes of the **Business Plan Workgroup** meeting are summarised further below in this report section.

The Content Provider meeting was followed by the TMB and Technical Meeting on 3 December 2010. Major agenda items were the implementation of the BHL-Europe Schema, the handling of the BHL-Europe code, preparation of D3.7 and the continuation of the GUID discussion. It was agreed to continue with the new schema, to start with test mappings and to investigate further metadata standards for taxonomic metadata.

Early 2011 meetings were held by Belgian partners of BHL-Europe to plan for the BHL-Europe Review Meeting scheduled for 7-10 June 2011. It was decided that the Review Meeting in June will be organised by the partners NBGB and RMCA in Tervuren and Meise and the next contractual meeting in autumn (29 November to 2 December 2011) will be organised by RBINS in Brussels. There is ongoing planning of this event and a [BHL Wiki page](#)⁵ was created for the Review Meeting in June.

3.0.1.6 Consortium agreement

The consortium agreement was revised by several partners and finalised during the final stage of the last reporting period. The meeting in London in December was used to collect and exchange signed documents. Only two partners (Wiley, SIL) have not yet provided their signature but are currently reviewing the document. As soon as the final signatures are collected the complete digital version of the Consortium agreement including all the signatures will be sent out to all partners. The final version of the consortium agreement is available on the [BHL Wiki](#)⁶.

⁵ https://bhl.wikispaces.com/BHLE_AnnualReview2.

⁶ https://bhl.wikispaces.com/BHLE_WP1

3.0.1.7 BHL-Europe internal reporting

Monthly activity reports were collected, archived and sent out for approval to the respective work package leaders. This way of reporting now seems to be widely accepted by the consortium and delays are infrequent. However the approval of these reports by the work package leader still needs to be more timely. Based upon the status report #3 (a narrative report every 3 months) a comprehensive Interim Report (M21) was produced, reviewed, circulated to the consortium and is available on the [BHL Wiki](#)⁷. There was very positive feedback from consortium members on quality and degree of detail for this report. In March 2011 the status report #4 was collected from all partners. Together with the Interim report (M21) they form the basis for this Progress Report D1.6 and the Annual Report D1.5.

3.0.1.8 Risk and Issue log

In order to improve the documentation of possible risks and issues in the project, all existing information was compiled in a risk and issue register and made available on Google docs for the PMG members. All identified risk and issues, also extracted from the previous status report (section risk and issue), are listed. Risk-prevention strategies, risks and issue-solving are also discussed on a regular basis in the PMG calls.

3.0.1.9 Financial statement

In the preparation of the financial statement including the 3rd pre-financing request due at the end of M24, the guidelines for the financial statement were revised and updated. In addition a step-by-step guide was provided in order to facilitate the preparation of the financial statements. All relevant information and guides can be found on the [BHL Wiki](#)⁸.

3.0.1.10 Work-package and task coordination

Each work package leader was asked to produce a work plan for upload to the project server. Currently, draft work plans for all WP are available until the end 2nd project year. These plans are made available through the Project Server⁹ and the [BHL Wiki](#)¹⁰ to the BHL-Europe consortium partners.

3.0.1.11 Quality assurance

The document on quality assurance procedures, M 1.2, was revised and adapted to improve the reporting of project's outcome and the communication of the project's progress within the consortium. The new version of M1.2 is available on the [BHL Wiki](#)¹¹.

3.0.1.12 Business development

BHL-Europe is required to present a first overview of the business plan for long-term sustainability (D1.5) in M24 of the project. Incorporating experiences of other projects, in particular Europeana, a draft document was prepared for the Content Provider and Technical Meeting in London (December 2010) to collect ideas and questions that need to be discussed.

⁷ https://bhl.wikispaces.com/BHLE_WP1_reports_INTERIM

⁸ <https://bhl.wikispaces.com/BHLE-FS>

⁹ Accessing the project server requires a login to the NHM VPN (<https://193.61.68.45>), and then partners are able to access the project server platform independently at <http://web-xen.nhm.ac.uk>. A detailed documentation can be found on the BHL Wiki (https://bhl.wikispaces.com/BHL-Europe_Project_Server).

¹⁰ <https://bhl.wikispaces.com/BHL-Europe+project+plans>

¹¹ https://bhl.wikispaces.com/BHLE_WP1

As a result of the meeting in London, five scenarios for the future of BHL-Europe were defined: stop all, maintain, incremental growth, keep going and growing, scale up. A SWOT¹² analysis was performed to compare the scenarios. A draft was finalised within the last months and distributed to the consortium and all feedback was collected. In addition to this a BHL-Europe Business Development workshop was held with Europeana office members in The Hague in March 2011. The draft document was also submitted to the Financial/Sustainability Working Group of the CCPA (Council of Content Providers and Aggregators) for external review. The document (D1.5) was finalised and will be submitted to the EC in May 2011.

3.0.1.13 *Networking activities - OpenUp!*

OpenUp! is a new project within the ICT PSP programme of the EC coordinated by the FUB-BGBM also partner of BHL-Europe. The OpenUp!¹³ Project will be opening up over 1 million multimedia objects from the natural history domain to Europeana. The Kick-off meeting was held at 9 March 2011 in Berlin at the Botanical Garden. BHL-Europe gave a presentation and it was also a good opportunity for many BHL-Europe staff members to come together and discuss various aspects of the project and possible ways of collaborating with OpenUp!. We expect a close alignment of members from both projects over the next months to share best practice approaches and exchange knowledge. This new project now also helps us to promote Europeana within our community (natural history museums across Europe), to raise awareness and to make more high quality content available for Europeana.

In this context, MfN is also improving the infrastructure for managing multimedia data (in particular literature and images/photographs). The BHL-Europe PCO and CCPA secretary is involved in this process to ensure that multimedia data can be delivered to BHL-Europe and Europeana.

¹² http://en.wikipedia.org/wiki/SWOT_analysis

¹³ <http://open-up.eu/>

3.0.2 Status and progress of activities – WP2

3.0.2.1 IT development

BHL-Europe aims to develop a web database to support analysis of domain content and management of the scanning process. For this purpose the Global References Index to Biodiversity (GRIB) was developed in collaboration with the VZG and the EDIT project. This chapter gives an overview of the current status of the GRIB.

GRIB prototype development and review: In preparation for the user review and technical review of the GRIB in London MfN, UBER and the VZG prepared the version 0.7 of the GRIB manual, available on the [BHL-Wiki](#)¹⁴.

From 1-3 December 2010 the GRIB was discussed during the BHL-Europe Content Provider and Technical Meeting in London. During the plenary on the first day the state-of-the-art of the GRIB was presented to the BHL-Europe consortium, followed by two workgroup sessions. During the first session the integration of the GRIB into the BHL-Europe system was discussed using different scenarios prepared and presented by MfN and BGBM for integration of the GRIB into the BHL-Europe system. The integration of the GRIB into the BHL-Europe portal should aim at fulfilling the following three criteria:

- Grouping duplicates in the result sets in the BHL-Europe portal.
- Search for either scanned or not-scanned literature as well as combined search of scanned and not-scanned literature.
- Lookup of digitisation status and nomination of literature for digitisation.

Various options for realisation of the presented use cases were discussed e.g. ingest of GRIB data into the OAIS or remote access over the BHL-Europe portal only. Their feasibility was agreed in principle, but the decision on the favoured mode of integration was postponed.

In the second session the actual review of the GRIB took place. Andreas Krausz (VZG) gave two presentations on 1) GRIB Data Model, 2) GRIB Data Storage Model, as a follow-up of the GRIB meeting during the BHL Global Meeting in Woods Hole. He presented his ideas on how super-records could be realised within the central library system on which the GRIB is based, as well as the implications this would have regarding the Digitisation Management Tool. A super-record is a bibliographic record that combines data about a unique publication from different sources. It is created by deduplication of a set of bibliographic records from the partners library catalogues. Individual records are matched and merged and the source information is kept for reference purposes. In addition hyperlinks to the full text of the respective publication will be added if available. Librarians and scientists will be able to identify and mark records where no digitised full text is available for managing their digitisation process. This aspect was identified as the major task during the review to be fulfilled with regard to the development of the GRIB. Furthermore, several suggestions on the enhancement of the GRIB have been documented and will be followed up.

A closed follow-up side meeting with colleagues from SIL (BHL-US) took place on the second day of the meeting to further discuss the implications of the review and to align the GRIB Digitisation Management Tool concept with BHL-US. The work on the improvement of the GRIB and further development started shortly after the meeting in London.

¹⁴ <https://bhl.wikispaces.com/file/view/GRIB+Technical+Manual+v0.7.pdf>

The following improvements of the GRIB were achieved during this reporting period:

- The interface was adapted by deactivating default settings not used by the GRIB and the display of the result lists was adjusted to 100 results per page.
- The search functionality for the digitisation status was simplified. The user has now the possibility to search within the GRIB using the following digitisation status search terms: “Not digitised”, “Should be digitised”, “Will be digitised”, and “Document available”.
- A facilitated search for bibliographic records from holdings of specific partner library was added to the advanced search. The user can decide on which library holdings he/she wants to search for where multiple selections are possible.
- The digitisation management widget was further developed in order to allow librarian users to indicate which volumes of a journal they are going to scan, and whether they are scanning all or only parts of that volume.

Furthermore, our partner UGOE assisted in the work for the GRIB. User requirements as derived from the BHL user survey and the BHL-Europe internal survey were aligned with the GRIB web presentation. The GRIB portal was tested and suggestions were given to improve the GRIB user interface and GRIB functionalities.

A combined logo for the GRIB (BHL-Europe and EDIT) was designed for the GRIB web portal to improve the visibility of BHL-Europe within the GRIB. The old logo was replaced and is now available online at the official [GRIB website](#)¹⁵.

Sustainability of the GRIB: The GRIB was developed in cooperation with EDIT and the VZG. The EDIT project ended in February 2011 and therefore it was agreed that after February 2011 BHL-Europe will continue managing the GRIB within WP2. The ViTal/ EDIT activity leader for the GRIB was employed by RMCA from March 2011 to continue his work for BHL-Europe and to ensure a sustainable GRIB development until April 2012. A help desk will be setup and the GRIB will be further managed as a digitisation management tool for BHL-Europe.

Further arrangements have been made with the VZG to continue the established service. MfN and VZG as the leading partners of the GRIB development agreed on a cooperation on the GRIB until February 2020. This includes hosting and maintenance of the GRIB by the VZG as well as import of data from BHL-Europe, BHL-US and EDIT institutions. Free and open access to the data via standard interfaces (WWW, Z39.50, SRU, internal XML and OAI) is guaranteed during that time.

Submission of data to the GRIB: Several partners provided catalogues for import to the GRIB. Those who provided their catalogues during this reporting period are listed below.

HNHM provided their entire Central Library Catalogue (not all the records are available at the moment in digital form) for import to the GRIB. They purchased and installed the Z39.50 interface module (from non BHL-Europe sources) for library systems following a former concept of the GRIB import. This concept changed and a MARC export was requested in the meantime. Submission of data to the GRIB was delayed due to bugs which were subsequently eliminated.

Our partner RBINS contacted LIBISNET – the organisation behind the library catalogue – in order to evaluate necessary preparations of their library catalogues for provision of their catalogue for import to the GRIB.

¹⁵ <http://grib.gbv.de>

As part of the ongoing provision of RBGE library catalogue data for the GRIB, retrospective cataloguing of monographs is also carried out by RBGE.

Further catalogues have been received from Naturalis and the National Herbarium of the Netherlands.

RMCA held a meeting including their library staff and the Metafro developers of the RMCA catalogue system as well as the ICT staff to discuss the unification of their different catalogues and future merging with LIBIS group which will be the new catalogue system for RMCA in order to facilitate and enable the delivery of a library catalogue for the GRIB.

A more detailed list of provided catalogues can be found in Deliverable 2.5.

Dissemination of the GRIB: The GRIB was presented at the 3rd EDIT publishing meeting 7-8 October in Copenhagen, Denmark and during the Electronic Publishing Working Group at the Humboldt University Berlin, 29 October (GRIB and UBER).

Preparation of the Deliverable 2.5: Preparation of the deliverable D2.5 “Final and enhanced Web-database for content management and collection analysis” started by identifying Boris Jacob as person responsible for the third deliverable within WP2 during the second half of the progress reporting time. Support was given to Boris Jacob by indicating topics to be included in the deliverable and by compiling a list of question that should be addressed within this deliverable. Preparations for D2.5 started in March 2011. The deliverable includes all up-to-date information about the GRIB until end of April 2011.

3.0.2.2 *Analysis of domain content*

This chapter gives an overview of work done regarding analysis of domain content during this reporting period.

UCPH gathered literature for destructive scanning¹⁶ and analysed two important journals including more than 150,000 pages that will be scanned in the near future. The effort spent on collections of the literature has not been (and will not be) included in the project effort. UCPH scanned ~50,000 pages, including two journals, *Friesia* and *Botanisk Tidsskrift*. Another two journals (one of them > 100,000 pages) will be digitised in the destructive way and UCPH hopes to fulfil their commitment of providing 100,000 pages before the summer 2011.

RMCA worked on further content selection for digitisation and updated their common ScanList on the RMCA's African Zoology Department, Biodiversity Information and Cybertaxonomy Group Wiki¹⁷. Related material to Charles Lémaire expeditions in Congo (1901-1903) have been selected and digitised.

BnF analysed additional already digitised titles for inclusion to BHL-Europe (*Revue générale de botanique*, *Annales des Sciences naturelles*). Furthermore a set of monographs was selected in order to increase the part of monographs in the BHL-Europe portal consisting of 524 directories which mean 8 titles of periodicals, 533 digitised documents and 226,715 digitised pages. A list of the first set of content that will be provided to BHL-Europe can be found in the table below:

¹⁶ Destructive scanning is a method of scanning on a low budget by producing a loose-leaf stack of papers by cutting of the binding of the book or magazine, which then can be loaded into a standard automatic document feeder and scanned using inexpensive and common scanning technology.

¹⁷ http://193.190.223.46/wiki_ext/index.php/BHL.

TITLES	Number of documents	Number of pages
Annales de la Société linnéenne du département de Maine-et-Loire [Texte imprimé]. 1853-1879 [I-XVII]	13	3,536
Annales des sciences physiques et naturelles, d'agriculture et d'industrie [Texte imprimé] : publiées par la Société d'agriculture de Lyon	73	42,927
Archives de zoologie expérimentale et générales Paris 1872 et Archives de zoologie expérimentale et générale. Notes et revue	87	35,229
Bulletin de la Société Linnéenne de Normandie 1855	138	29,146
Bulletin de la Société zoologique d'acclimatation- Bulletin de la Société d'acclimatation- Bulletin de la Société nationale d'acclimatation de France- Revue des sciences naturelles appliquées- Bulletin de la Société nationale d'acclimatation de France: revue des sciences naturelles appliquées	82	43,509
Bulletin de la société zoologique de France 1876	81	27,092
Revue zoologique Paris 1838 fusionne avec Magasin de zoologie donne Revue et magasin de zoologie	11	4,704
Revue générale de Botanique Paris 1889, Bonnier, éd.	48	40,572
TOTAL	533	226,715

In a collaborative project, UGOE and the University Library of Florence (MSN) organised and implemented the coordination of the digitisation of Italian books at the UGOE library. Approximately 430 books have been transported from Florence, Italy, to Göttingen, Germany, and were processed there in four months from 4 November 2010 to 9 March 2011. Unfortunately, many books could not be digitised due to their poor conservation. The risk of damage, especially for journal volumes, during digitisation would have been too high. Even if only few volumes of a series were poorly preserved it was decided to not digitise the entire series, because it is not desirable to produce gaps in a serial run. The total number of books digitised was 274, mostly monographs. Each book contained an average of 201 pages, which resulted in a total of 55,216 page images scanned. The maximum number of pages per book was G. B. Sowerby's work "The genera of recent and fossil shells" (London 1820-1834) with 1,093 page images, a rare and precious book on molluscs that had been donated 100 years ago by malacologist M. Paulucci to the University Library of Florence. Most digitised books were published in Italy in the 1800s and were written in Italian, which has always been one of the most important scientific languages since the beginning of studies in natural sciences in the 1500s. We checked beforehand whether content provided by University of Florence for digitisation in Göttingen was already available in the public domain, and whether books that were digitised elsewhere (and which could not be digitised in this project for reasons mentioned above) were already available in the public domain. It was decided to also scan those books which were digitised elsewhere if the digitised files were not available in the public domain. The books returned safely to Florence and now the University is working to make the data available through their online catalogue. The digitised books provided by University of Florence will be made available through UGOE for BHL-Europe. The project was very successful as hundreds of extremely rare and precious works were digitised, some of them present nowhere outside Italy. In many cases the titles could not be found in any German library catalogue. Since access to pre-1900 original literature in Italian public libraries is becoming increasingly difficult for Italian researchers, this joint project was a great success in assisting zoologists in facilitating biodiversity related research on Italian and southern European fauna.

MNHN worked on new content selection and a bid list was established (estimated 545,000 pages), partitioned in the following five themes:

- Content requested by the researchers
- Publications of the MNHN laboratories
- Publications on the history of the MNHN Botanical Garden
- Public domain literature
- Other leads

The list was reviewed in cooperation with the head of the MNHN library and almost half of the selected items have been rejected from the list for several reasons (already digitised, copyright issues, no relevance). For the remaining items, the description of the bibliographic and physical content was started.

RBINS discussed with the library personnel which digital publications can be offered to BHL-Europe, set up priorities and is preparing content to be sent as a first test set (~ 2,000 pages). As a result of participation in the BHL-Europe project, RBINS is now working on a digital library for the institute using the Greenstone software. The library has bought an external server for the storage of the digital documents of the institute (no BHL-Europe budget was spent on this purchase). The Greenstone software was installed and for the coming months all existing scanned/digital articles and books which are currently spread all over the institute will be identified, collected and imported to this system. This digital library will also facilitate the transfer of content to BHL-Europe. However, the restructuring process took longer than expected and RBINS is still in the process of transferring their digital content to the external server and assembling content for the Greenstone software.

Naturalis visited RMCA to exchange working methods and harmonise digitisation activities for BHL-Europe.

NBGB addressed a new request to the editor of the serial "Lejeunia", to obtain the rights to digitise all volumes available to date rather than only the first series. Unfortunately, the president of the editing society does not agree because their aim is to digitise these volumes themselves and to publish only the content digitised on the website of the University of Liège. However they continue searching for content that can be digitised in future.

RBGE visited colleagues at the National Library of Scotland (NLS) to discuss about the possibility of getting digitisation work done for RBGE by Internet Archive. Some titles were identified and checked as suitable candidates for digitisation. Issues relating to deduplication were considered when identifying these titles. Several nineteenth and twentieth century horticultural serial titles were listed and preliminary counting of volumes and pages carried out with a view to submitting an application to a UK trust for funding to assist with the digitisation of these materials. Care was taken to ensure that proposed material is not already available in selected digital online libraries. Furthermore, RBGE contacted all authors (both non-RBGE- and RBGE-based: 40 in total) about their intention to digitise and include *Sibbaldia* No. 1-3 in BHL-Europe.

3.0.2.3 Preparation for the Deliverable 2.7 "Content analysis & management status report 2"

Preparation (gathering data, identify contributors and informing them about required information, asking contributors to send information in time, searching of external reviewer) for the deliverable D2.7 "Content management and status report 2" started during the second half of this reporting period. A table of contents including bullet points for the chapters was compiled. Until the end of this reporting period the work on analysing the content and writing was in process. LANDOE helped with the estimation of biodiversity content available within Europe and updated the numbers of the first estimation during the first project year.

Furthermore content estimation on two neighbouring disciplines was done – Earth sciences (Geology, Palaeontology, and Mineralogy) and Agriculture. Detailed information can be found in D2.7.

3.0.2.4 *Management of the content acquisition process*

Managing data upload to BHL-Europe server: Enabling data upload for our content providers to the BHL-Europe server was a further task during the last half year. Preparation for the data upload was fulfilled in cooperation with WP3. In order to coordinate the required FTP accounts for our content providers, a [BHLWiki page](#)¹⁸ was established. All content providers have been asked to provide a person in charge and a back-up contact for the content upload within their institution. According to the provided information, FTPS accounts have been created for each content provider and logon details have been sent out in November by WP3. It turned out that some of the content providers had difficulties using a FTPS connection within their own institution and therefore all content providers have been asked during the Content Provider and Technical meeting in London to check their FTPS connection and report any problems. The above mentioned Wiki page contains a list of all BHL-Europe content providers, general information about the FTPS account and a ‘How to use’ section. For those content providers who had problems with the primary FTPS solution, a second solution was provided.

Management of current content providers: A lot of time was invested during the reporting time for communications with our current content providers and the WP3 team (AIT, NHMW) to coordinate the upload of content and giving feedback for content providers regarding their content. Content providers (NMP, HNHM, UCPH, NBGB, RMCA, BnF, MNHN, CSIC, RBGE, UH-Viikki, UBER) were asked to work on their content and upload data to the NHM server. Each content provider is different and has its own needs and therefore communication with each of our content provider was and still is necessary. To develop a routine in the content provider’s work and to provide feedback about quality and the way they provide content, the following workflow was followed:

- Request to content provider to upload a test-data set including scans and corresponding metadata to the NHM server using their FTPS logon details.
- Ask content provider to follow the latest [file submission guidelines](#)¹⁹ issued by WP3.
- Content provider gives a notification when test upload finished.
- Technical team of WP3 is informed about test upload and asked to check the content for further ingestion to BHL-Europe and Europeana. This is done by two partners within WP3 (NHMW, AIT):
 - NHMW: Is responsible for mapping the metadata using the BHL-Europe schema and therefore is asked to check the uploaded metadata.
 - AIT: Is responsible for the first step of ingesting data to BHL-Europe and is asked to check if the file structure used by the content provider is suitable for ingest.
- After all questions or issues are solved by the content providers as well as by the technical team, the content provider is instructed to continue with uploading content to the BHL-Europe server in the same way it was done for the test-data.

More up-to-date information about the content management can be found on the following [BHLWiki page](#)²⁰. The current status is documented here to allow our partners as well as the

¹⁸ https://bhl.wikispaces.com/BHL-Europe_Data_Upload

¹⁹ https://bhl.wikispaces.com/BHL-E_WP3_PREINGEST

²⁰ https://bhl.wikispaces.com/Content+_Management

technical team to inform each other at any time in order to make the content management process more transparent, and to facilitate communications and future planning of their own tasks. More detailed information is also available in Deliverable 2.7.

MoU for new content providers (2.3.1): BHL-Europe finalised the work on the MoU for the project in autumn 2009. While working on content acquisition it was noticed, that the current MoU needs to be adapted for new content providers who are not part of the consortium. The current MoU includes links to documents (e.g. Description of Work, D2.1) which are not public and cannot be sent out to external persons. Therefore, the project coordinator - who assists and coordinates this task - slightly revised the existing MoU to adapt to the need of external content providers and also taking into account some new developments within the project context (Global BHL, Europeana data agreement). It is aimed to finalise the revised MoU during the first half of the next reporting period. The new MoU will be used for new content providers who will join the network.

3.0.2.5 Assist partners in implementation and evaluation of scanning operations; discuss and distribution of data standards and specifications; attracting new content providers

Best Practice Guidelines and Standards: This deliverable aims at giving a first standardised guideline for Europe. The approved best practice guidelines and standards shall be understandable for every person working with it. The guidelines assist new and existing contributors in a simple and clear way through a digitisation workflow from either the print or digital version of an item to the digitised representation of that item in the BHL-Europe portal. The guide will describe the minimum standard required for BHL-Europe and where possible specifying the ideal standard.

During this reporting period we continued with the work on the first deliverable of the Best Practice Guidelines and Standards. A first meeting was held on 8-9 November 2010, hosted by LANDOE in Linz, Austria aiming at bringing together all participating parties (LANDOE, MfN, Naturalis, NHM, Ernst Mayr Library – BHL-US, UBER, HNHM) and to discuss existing workflows. The outcome of the first workshop was a first draft of a table of contents and the assignation of contributors to most of the chapters. In order to assist the authors all workshop participants were asked to contribute questions that could be answered within the several chapters. A second and shorter workshop was held one month later during the Content Provider and Technical meeting in December 2010. During the second workshop in London, the table of contents was revised by going through each chapter and the related questions provided by the participants in order to make sure that the authors understood their tasks. The deadline for delivering all chapters was appointed to 5 January 2010. The completed chapters were received from beginning of January until mid of February. The main task during this reporting period was reviewing the chapters received and giving feedback with regards to content. This was then sent back to the authors and they were asked for revision.

After the coordinator -LANDOE- of the process received the revised chapters they were implemented and the draft document was reviewed a second time. Changes in the structure were made for a better understanding. Furthermore, all information known at time of writing, derived from discussions and calls with the technical implementation team which might be of value for content providers was included, e.g. information about data workflow and schema mapping tool. During the whole process of reviewing, revising and restructuring the document regular calls were held between the WP2 leader and the task coordinator, Michaela Hierschläger (LANDOE). Jane Smith from NHM was asked to review the document linguistically. The final draft of the Best Practice Guidelines and Standards was sent out to the

consortium and all PMG members 1 March 2011 and to our Egyptian colleagues at Bibliotheca Alexandrina who were asked to review the document as external reviewers.

A total of 11 partners (LANDOE, Naturalis, UBER, NHM, HNHM, CSIC, UGOE, ATOS, NHMW, MfN, BHL-US) contributed to the Best Practice Guide, and this became a big challenge not only in terms of coordination but also in harmonising the various writing styles of all contributors in order to publish a consistent document. More details about the Best Practice Guide, workshop, notes, deadlines, participants, feedback process and a current working document can be found on the [BHLWiki](#)²¹.

Outlook for D2.9 - Final version of the Best Practice Guide: For the second and final version of the Best Practice Guide (D2.9) we aim to prepare several documents. The first version of the Best Practice Guide (D2.6) is a very detailed document and comprises more than 100 pages. This document will be updated during the last year and can be seen as reference book for content providers. However, as this document might be too long for some readers who only wish to inform themselves about the most important facts, very short documents (1-3 pages) will be extracted from the Best Practice Guide for several topics, e.g. metadata and IPR.

Assist partners in scanning operations: Assisting partners in implementation and evaluation of scanning operations is a task within WP2. For this purpose the scanning workflow management tool GOOBI was taken into account. A first meeting with [intranda GmbH](#)²² - the Goobi software provider - was held beginning of November 2010 with members of MfN and UBER. Furthermore a survey was designed and conducted to better understand the needs and requirements on the digitisation workflow of our partners. The survey was carried out by our partner UBER and each content provider received an invitation to participate in the survey in the middle of November 2011. After four weeks the survey was closed and in total 13 content providers out of 23 participated in the survey. The following partner participated: LANDOE, UCPH, NATURALIS, NBGB, RMCA, RBINS, MNHN, CSIC, RBGE, UH-Viikki, UBER and two BHL-US partners (SIL, Ernst Mayr Library/ Harvard University).

The evaluation of the survey allows UBER to test already-available digitisation tools and software in regard to BHL-Europe content providers which can be introduced in the deliveries D2.6 and D2.9. For this purpose UBER evaluated the results of the survey in order to be able to create a list of test criteria based on the survey. These test criteria should help to select existing software tools for the process of digitisation and propose these for our content providers within the Best Practice Guidelines and Standards. To better understand and evaluate GOOBI, UBER started with examining the documentation and installing a GOOBI test bed. Furthermore UBER will look into the [workflow tool](#)²³ provided by our global partner Bibliotheca Alexandrina, Egypt, and other tools which might be helpful for our content providers.

Analysis and preparation of (meta)data for Pre-Ingest: This section gives an overview of the work done regarding analysis and preparation of scanned material and the corresponding metadata in this reporting period and is separated in paragraphs by partners.

HNHM puts their main focus on journal volumes on article level, as books are regarded having a lower priority for scanning for HNHM at the moment. The reason for this is that many of the former Eastern Bloc countries (i.e. Hungary) literature is regarded as 'grey'

²¹ https://bhl.wikispaces.com/BHLE_WP2_BPG

²² <http://www.intranda.com/>

²³ http://wiki.bibalex.org/DAFWiki/index.php/Main_Page

literature because of weak availability and marketing. During this reporting period HNHM worked on the compilation and key-in of the bibliographic metadata sets (xml format). In more detail, HNHM takes all issues in hand and keys-in the bibliographic metadata (authors, title, alternative title, volume, issue and page numbers, keywords if available, abstract(s) if available, notes if relevant) into a XML file. This workflow has already been used by HNHM before the scanning itself started and is based on their long working experience. Subsequently to the primary enhancement of the metadata HNHM converts data into a temporary MySQL data base where they make further improvements.

Another task is to divide scanned material (puff files) into articles and link them to the corresponding metadata. After these steps have been finished, metadata is imported into their "final publication data base" and HNHM publish the metadata together with the scans (pdfs) on their webpage. By completing all the described steps HNHM is able to export the content for the upload to the BHL-Europe server. The goal of HNHM is to put an emphasis on a high quality instead of using a "quick fix" workflow which of course needs manpower. Sometimes it was also necessary to rerun parts of the workflow because of the modifications/refinements of the XML structure in order to add additional data. Within the framework of a former experiment, HNHM also extracted taxonomic metadata from *Vertebrata Hungarica* (ceased journal title). All taxon names occurring in the title, abstract and keywords were extracted and inserted into an XML structure at the highest taxonomic level available. For example if only *Turdus merula* (genus and species name) or its common name is mentioned in the source the higher taxonomic categories are also added (*Vertebrata*, *Aves*, ...). In case of an ecological paper (with a long list of taxa) only the highest relevant categories are used (e.g. singing birds). The granularity of metadata is on journal article level.

The following journals' metadata was completed by HNHM: *Fragmenta Botanica Hungarica*, *Studia Botanica Hungarica*. Quality assurance and database conversation of the following journal data was completed: *Parasitologica Hungarica*, *Vertebrata Hungarica*. The formerly finished datasets were completed with the exact date(s) of publication (both the hardcopy and the digital publication date) since this has a special importance in taxonomy because of the priority rule in nomenclature. The bulk digitisation of HNHM journals was carried out by Arcanum Ltd., Budapest in 2010. Having a significant budget limitation only those volumes were selected with extra copies (majority of them) in order to be able to prepare them for destructive scanning. The scanning service provider delivered OCR-ed PDF files per volume and in parts raw tiff files for the pages. The following journals' metadata was completed at the time of writing: *Annales historico-naturales Musei nationalis hungarici*, *Fragmenta Botanica Hungarica*, *Studia Botanica Hungarica*, *Vertebrata Hungarica*, *Miscellanea zoologica hungarica* and *Parasitologica Hungarica*. Quality assurance and database conversation of the following journal data is in preparation: *Crania*, *Anthropologica hungarica*. Metadata were created for: *Folia entomologica hungarica* and *Fragmenta Paleontologica Hungarica*. Communications with HNHM are currently in progress in order to proceed with the upload of the above mentioned content to the NHM server.

HNHM additionally started negotiations with the Hungarian Academy of Sciences, learned societies, institutions and regional natural history museums to form a consortium in order to establish a Carpathian Basin Biodiversity Heritage Library Network. With the support of HNHM these asset holders can be smoothly integrated into BHL-Europe. In case of two co-publishers and as such co-copyright holders (Hungarian Entomological Society, Hungarian Parasitologist' Society) HNHM (the other co-publisher) signed an agreement to incorporate the *Folia entomologica hungarica* and *Parasitologica hungarica* into the BHL-Europe corpus.

RMCA digitised about 14,000 additional pages of biodiversity literature from the zoological department in the framework of other projects and in-house activities. The coordinators of these projects were keen on providing this content to BHL-Europe as well. All files were checked and renamed on page level. Further they processed metadata by inserting new data and enriching their catalogue with additional information. During a meeting beginning of November 2010 OAI-PMH was discussed as a solution for harvesting metadata by BHL-Europe. RMCA uploaded content to the NHM server including scanned images and corresponding metadata (~ 24,000 pages of monographs) from the public domain.

BnF sent a first metadata set for the Pre-Ingest during this reporting period. Additionally they provided on request an English documentation of their internal metadata schema which was needed for the mapping of the BnF metadata to the BHL-Europe schema. It was not possible for BnF to upload their content to the NHM server and therefore a download from their server needed to be coordinated. Communication between BHL-Europe and BnF took some time as the available content on the BnF server was provided in different scanning versions and an agreement which content will be downloaded was necessary. The download started during the second half of the reporting period and was finished beginning of April. BnF was asked to check the downloaded content on the NHM server in order to avoid errors during the download process. At time of writing BnF advised BHL-Europe to repeat the download as not all files were downloaded automatically to the NHM server.

MNHN is still reviewing their metadata file template for future indexing operations (.xls document) because they have had difficulties regarding different levels of the information management. They had several meetings to review the template and the technical specifications with their service provider for their own portal, as the same data will be provided also to BHL-Europe. Due to the development of a new version for their own portal this task is still in progress; however a final template version will be achieved within the next reporting period. MNHN sent the latest version to their digitisation and indexation service provider and expect the first feedback from the service provider in May or June. Furthermore, MNHN continued and finished the description of bibliographical and physical data of each issue number, for a first batch of 200,000 pages (about 1,800 volumes of MNHN scientific publications) before starting the outsourced scanning activities. A first transfer of their metadata and scans was tested, which identified difficulties with the FTPS connection as well as with the backup solution WebDAV. Finally, after many tests, WebDAV turned out to be the best solution for MNHN. The test files used during the test upload refer to 100,000 pages which are already online on their [MNHN portal](http://mussi.mnhn.fr)²⁴ under the menu “Textes numérisés”. These 100,000 pages are now also available on the NHM server.

NBGB checked the quality of their bibliographic metadata, and this will be an ongoing process for the next reporting period.

CSIC digitised several important works (e.g. Fauna Ibérica), completed the metadata for the scans and uploaded the content to the NHM server. During the reporting period CSIC uploaded among others 4 volumes of Fauna Ibérica, the full entomological bibliography list from Linnaeus until 2000 and the Dirtax – the directory of Spanish Taxonomists – was digitised and attached with a metadata file. More rare works have already been digitised and metadata was completed, however a final quality assurance needs to be done before the upload to the NHM server can take place.

RBGE completed the work on the quality assurance (QA) and post-scanning processing of the 46 volumes (22,000 pages) of the Notes of the Royal Botanic Garden Edinburgh (NRBGE)

²⁴ <http://mussi.mnhn.fr>

and the 8 volumes of the Flora of Bhutan (3,400 pages). Feedback provided after submission of scans and associated metadata of one volume of the NRBGE for pre-ingest testing identified that bibliographic metadata at the title (volume) and item (part) level was required. This metadata was created and submitted as part of the ingest process. Thus, content for ingest included .tif files of page images, structural metadata in Excel format and bibliographic metadata at title, item and article level in .mrc format.

A sample set of this data comprising the first three volumes of the NRBGE was transferred to the NHM server in December 2010. Flora of Bhutan volume 3, part 3, scheduled for inclusion in BHL-Europe was blocked because one copyright holder was not prepared to permit digitisation. All files and associated metadata for the Notes from the Royal Botanic Garden Edinburgh (NRBGE) and the Flora of Bhutan were uploaded, completed at the beginning of March. A problem occurred during February with the data upload using Cyberduck. This was resolved by installing BitKinex to facilitate the transfer of data instead. Creation of structural and bibliographic metadata was completed for “The Vegetation of Caithness”. Following the completion of scans for the missing pages of this monograph, the files for this work were uploaded to the NHM server in April.

LANDOE prepared more content for delivery for EUROPEANA and BHL-Europe and the task will be finished within the next reporting period. LANDOE reached the numbers promised within the MoU of their scanned material of 3,000 books - currently 3,500 books will be available from the institution. These books are ready for delivery and preparations for uploading the content to the NHM server have been started. By the end of the project they will work on more material to be scanned with a goal of 4,000 books.

UH-Viikki edited their file naming guidelines for outsourced scanning. They also investigated how to get relevant metadata from their databases Helka and Arto in XML format using the Voyager Select Tool. They ordered and received 22,700 pages of journals digitised by their digitisation provider Vaasan Micro Copy Oy, performed quality control of these files and uploaded the first items to the BHL-Europe server (Meddelanden af Societas pro Fauna et Flora Fennica 49 and 50). The reprint collections of the Botanical Museum of Finnish Museum of Natural History were studied and evaluated for future digitisation during this reporting period. The following content was uploaded by UH-Viikki to the BHL-Europe server by the end of this reporting period:

- Acta Botanica Fennica
- Acta Zoologica Fennica
- Memoranda Societatis pro Fauna et Flora Fennica
- Flora Fennica

The page images are in TIFF format and the accompanying metadata is in MARC21 format. All these series except Flora Fennica also contain article level or monograph level metadata. The file names of tiff images were mass edited in order to comply with our file naming guidelines. This process was facilitated by using [Bulk Rename Utility](http://www.bulkrenameutility.co.uk/)²⁵, a free utility software.

UCPH planned to finish the quality control of their scanned items by the beginning of this year. However, they had problems with pages not being horizontal after scanning and currently are trying to find a tool to correct them. Communications with UCPH are currently in progress in order to proceed with the upload of the already-available content to the NHM server.

²⁵ <http://www.bulkrenameutility.co.uk/>

Expansion of the content provider network – “BHL-Europe in a nutshell”: Attracting new partners until the end of the project is a major task within WP2. For this purpose the "BHL-Europe in a Nutshell" document was finalised and introduced during the Content Provider and Technical meeting in London. This document aims to be a brief but informative document including the most important facts about BHL-Europe, benefits and IPR issues and was created in collaboration with WP4. The test phase using the content provider's connection and the “BHL-Europe in a nutshell” document for acquiring new content and content providers for BHL-Europe was started in close collaboration with RBGE and CSIC.

Initial feedback from RBGE on how this method of content acquisition worked will also be given within the Content analysis and management status report 2 in D2.7. In February 2011 RBGE started to send out emails to 32 selected Scottish natural history societies with the "BHL in a Nutshell" document attached. Also included was an introductory information sheet about BHL-Europe and a review of Scottish imprints included in BHL (to give examples of current content) as part of the work trialling the "BHL in a Nutshell".

From this mailing RBGE received three responses by e-mail and one response through a personal visit. Two of the respondents asked for further information: one e-mailed response informing RBGE that the project sounded very interesting and that the person would forward the message to their committee and put it on the agenda for their next meeting in mid-April. The personal visitor also expressed interest on behalf of her society and informed RBGE that a sub-committee had been formed to look at issues related to digitisation of the society's archive and publications back-file. The other respondents either asked “for further information” or asked “what being a partner involves”. Following up these replies no further communication has resulted from one respondent, the other replied: “I had anticipated that RBGE might have a grant to support digitisation of non-RBGE Scottish material, but that was probably naive considering the current financial climate! As a first step, I'll consult with colleagues about what we might be able to do in-house with material for which we hold copyright.”. Unfortunately despite these expressions of interest in the project, at the time of writing no new content has been secured.

It is hoped that there may be interest and resulting new content following an article about BHL-Europe prepared for Issue 37 of The Forum newsletter of the Scottish Biodiversity Forum – an online magazine produced by the Biodiversity Information Team of Scottish Natural Heritage (SNH). The “BHL-Europe in a Nutshell” was also sent to staff at Scottish Natural Heritage following initial telephone contact. Staff at SNH expressed interest in BHL-Europe but has made no decision as yet regarding content contribution.

RMCA also sent out information about BHL-Europe to eight Belgian organisations, however no response was received to date.

Furthermore the “BHL-Europe in a Nutshell” document was translated into several languages by our consortium and is now available in following languages:

- Spanish
- French
- Russian
- English

Further information about content acquisition, e.g. the “BHL-Europe in a Nutshell” document can be found on the [BHLWiki](https://bhl.wikispaces.com/Content+_Management)²⁶.

²⁶ https://bhl.wikispaces.com/Content+_Management

Expansion of the content provider network – New content provider: During the last board meeting of the GfBS²⁷ (Gesellschaft für Biologische Systematik,) at the MfN in October, it was discussed whether the early issues of the societies journal ODE²⁸ (Organisms, Diversity and Evolution) published by Elsevier can be offered to BHL-Europe. It needs to be further investigated if there are any rights issue with the former publisher of the ODE but, as the GfBS is the right holder, there should be no problem. Furthermore, the GfBS board achieved the result that their current publisher, Springer will allow open access to issues older than 2 years and make them available in BHL-Europe. As a board member of the GfBS, Jana Hoffmann will follow up on this. To date, the GfBS agreed to provide content to BHL-Europe.

RMCA discussed and arranged with other Belgian institutions, societies and other projects to provide additional content to BHL-Europe, i.e. discussion of collaboration with RMCA's history unit who are hosting archival material.

A meeting was held at CSCI with A.G. Valdecasas and the CSIC director of electronic journals to identify the availability of already-digitised material for BHL-Europe. More efforts have been put into corresponding with copyright owners concerning the availability of some of their holdings, for instance Sociedad Española de Malacología, Junta de Castilla la Mancha, Angel Felicísimo. In general the reaction is positive, but the process is time consuming, especially with administration copyright owners (e.g. Junta de Castilla la Mancha).

RBGE became involved with the extension of the BHL-Europe content provider network. Approaches for advice and assistance with digitisation of a society journal was received from a committee member of the Forth Naturalist and Historian, and one individual seeking to deposit a scanned public domain biodiversity work (quite scarce) in a suitable digital library. A draft local dissemination plan began, with further work to be done on this from January 2011 onwards. 64 authors who have contributed papers to Notes from the Royal Botanic Garden Edinburgh were contacted. Positive feedback about the digitisation of these papers and the work of BHL and BHL-Europe was received from 36 of these authors, 28 did not respond.

LANDOE was asked to help additionally with the content acquisition and they will work on locating new potential content providers using a list of natural history museums and other natural history institutes that has already been prepared several years ago by the institution.

In November 2010, a delegation of MfN and BHL-Europe visited the new scanning centre of the Berlin State Library. One goal of the visit was to investigate possible areas of collaboration in digitising book collections. As new content provider, MfN can learn from them about establishing their own scanning facilities. MfN also discussed existing scanning projects and possible overlap with BHL-Europe priorities. However, all the State Library's scanning projects do not focus on biodiversity literature. Furthermore, MfN also discussed their scanning workflow to identify possible input for the BHL-Europe Best Practice Guide. The State Library is using the scanning workflow software Goobi that we investigate within the project for use by our partners.

MfN was also successful in raising funds for a book scanner. BHL-Europe was involved to some extent in the process to date. The scanner was purchased and installed within the last weeks and is now up and running at MfN. Currently, projects are being planned and a strategy

²⁷ <http://www.gfbs-home.de/>

²⁸ <http://www.springer.com/life+sciences/ecology/journal/13127>

is being developed to define which content will be scanned in the near future. BHL-Europe will collaborate with the MfN library to set up each project according to the BHL-Europe requirements. Based on the current progress, it is anticipated that MfN will provide content for BHL-Europe before the project ends in April 2012.

During the second half of the reporting period several potential content providers have been contacted for acquiring new content to BHL-Europe. Communication with prospective content providers requires a lot of time and preparation in order to effectively answer various questions, for instance questions regarding IPR, metadata, OCR, MoU. This is an ongoing task within the next project year.

3.0.2.6 *Coordinate with Europeana*

Coordination with WP3 regarding Europeana: Regular calls (every other week) were held with Gerda Koch from AIT, which is the main contact for Europeana regarding ingest of content to Europeana. This was done to give AIT an update about already available content from our content providers in order to ensure that available material will also be available through Europeana. Following partners are planned to be harvested by Europeana:

- UBER
- UH-Viikki
- RMCA
- CSIC
- RBGE
- UCPH
- UBBI

More up-to-date information will be available in the “Content analysis & management status report 2” D2.7.

The Europeana Council of Content Providers and Aggregators (CCPA): After the successful plenary meeting of the CCPA in The Hague in October (see D1.4 for details), the five working groups are now officially launched and the chairs of each working group were asked to set up the groups by end of February 2011. Every content provider of BHL-Europe is encouraged to join the [CCPA](#)²⁹ and also sign up for the [working group mailing list](#)³⁰. More information is available via [Europeana](#)³¹ and also in the [BHL-Europe newsletter No. 5-6](#)³².

A meeting of the CCPA officers was held on 28 February 2011 in The Hague followed by the Europeana Foundation Board meeting on 1 March 2011. During that meeting we formally agreed replacing Kjell Nilsson (retirement) by Louise Edwards representing the library domain. Louise will also act as the CCPA liaison officer for the Legal Working Group of the CCPA. This working group has an important task in supporting the process of finalising the Europeana data exchange agreement. This document is based on the data provider agreement, but was simplified again after the consultation in January 2011. BHL-Europe also participated in the consultation. The content providers were invited to provide feedback or questions and we received a number of suggestions to be forwarded to Europeana. A joint feedback form

²⁹ <http://version1.europeana.eu/web/guest/councilregistration>

³⁰ <http://version1.europeana.eu/web/europeana-foundation/workinggroup>

³¹ <http://version1.europeana.eu/web/europeana-foundation/content-council>

³² <http://www.bhl-europe.eu/newsletter.php?lang=en>

was provided by BHL-Europe to Europeana. In April a new round of workshops followed to further elaborate on some major questions coming particularly out of the museum domain. During a next round of consultation the agreement will be further refined. The CCPA officers are going to support this process and thus Europeana in removing the barriers to acceptance of the agreement.

Another important item on the agenda of the CCPA officer meeting and the Europeana Foundation Board meeting was the New Renaissance Report of the Comité des Sages. The implications for Europeana and all content providers and aggregators were discussed. The CCPA will now further develop on the New Renaissance Report to find out what the community really want. This task was distributed across the five CCPA working groups and subtasks were created for every WG. Several BHL-Europe staff members participate actively in the various CCPA WG. The outcomes of the work will be presented during the CCPA Annual General Meeting alongside the [DISH conference](#)³³ on 6 December 2011.

The Europeana Data Provider Agreement: The MNHN filled out the form of Europeana Consultation on New Data Provider and Aggregator Agreements and sent their comments about the main modifications of the document.

RMCA compiled comments for the draft proposal of the Europeana Data Provider Agreements which reflect RMCA IPR policy and is directly relevant to BHL-Europe as content from BHL-Europe will also be provided to Europeana.

Europeana Digital Library Foundation: The Europeana Digital Library Foundation coordinated with BHL-Europe to ensure that material scanned by BHL-Europe is available in Europeana. Furthermore, they analysed and promoted content from BHL-Europe in relation to other material in Europeana and made sure that content provided by BHL-Europe for Europeana is of good quality and quantity according to Europeana standards and specifications.

3.0.2.7 Addressing IPR issues in cooperation with WP4

While acquiring new content providers and managing the already existing content providers some questions came up regarding IPR. For instance one prospective content provider asked for suggesting a licence type within Creative Commons for their content. Another prospective content provider asked if it would be possible to use an online form for completing right permissions. For these and further questions the assistance of WP4 was sought.

3.0.2.8 Organisational and administrative tasks

Organisational and administrative work has further been done during this reporting period. The coordination of WP2, WP2 project planning, intensive communication with WP3 and the writing of reports occupied additional time during this working period.

³³ <http://www.dish2011.nl/>

3.0.3 Status and progress of activities – WP3

We refer to the developer information on the [BHLWiki](#)³⁴ and the deliverable D3.7 for more details on soft- and hardware used and further explanations, as well as detailed documentation of the overall architecture and connectivity.

3.0.3.1 *Management of the Technical Development*

In this reporting period, the technical team held three TMB meetings (Egypt, Germany, and Austria) to review the progress of the development work and also conclude on various aspects relating to our adopted technologies and functional architecture of the final BHL-Europe system:

Alexandria, Egypt: The visit of the BHL-Europe delegation in Egypt (Bibliotheca Alexandrina – BA) took place 24-28 January 2011. Unfortunately the library was closed due to a public holiday on the 25 January. There was a general tour (non-technical) of the library on the 24 January 2011 including the library reading area and the Manuscript Museum (including virtual exhibitions). The agenda was then modified to accommodate the arrival of Lee Namba on the 25 January, and technical tours and discussions were postponed until his arrival. The technical tour took place on 26 January 2011, this included the print on demand Espresso Book Machine, the Internet Archive server room, SUN Supercomputer, and Digital Scanning Lab. Over the remaining day it became clear that a great deal of synergy existed between BHL-Europe development requirements and technology already implemented and in production within the Bibliotheca Alexandrina. Discussions included the Digital Assets Repository (DAR), DAR Architecture, UUID (GUID's & DOI's) and Workflow. BA revalidated the BHL-Europe approach to GUID use and architecture. The BA has implemented a GUID approach based on Handles. We have seen their system running and got valuable feedback. This puts us in the position to be able to implement the system for BHL-Europe. On the 27 January, the final day of the visit, we discussed the BA's Digital projects, system architecture and collaboration opportunities. The BA was very keen to become a global hub for the BHL data and act as replication node. This would require the BA to hold all of the BHL content and provide an access portal/website.

Collaboration options of BA and BHL-Europe were identified on various levels during the visit. BA has a well established scanning workflow and can support BHL-Europe in finding a best practice approach for scanning operations. The BA team revised D2.6 and provided input for this document. We are also investigating their workflow tool to support our current and future partners with their scanning operations. BA is very interested in contributing to Europeana. Europeana is interested as well in acquiring content from BA and in collaborate with them. BHL-Europe can be the test case for Europeana to make a first set of BA contention available to Europeana. A number of actions were raised at the meeting and will be concluded over the coming weeks.

At the time of writing, the conflict within Egypt still makes the actions difficult to follow up. Overall, the visit was considered a success; the BA has a wealth of experience in developing and implementing digital infrastructure. The BA's digital architecture was found to be quite similar to the BHL-Europe approach. With a little development and refactoring some BA components could provide "drop in" solutions for BHL-Europe requirements. We would be very happy to continue and even intensify the collaboration with BA as they have established

³⁴ https://bhl.wikispaces.com/Developer_Information

a very impressive infrastructure over the entire workflow from digitisation to digital preservation and user engagement.

Following on from the BA visit, the BHL-Europe Technical Meeting was held on 28 January 2011 in Cairo, which was a continuation from the meeting that was started on 25 January in Egypt. Topics discussed included ingesting the Submission Information Package (SIP) into Fedora, Optical Character Recognition (OCR) and methodologies for OCR quality improvement, the use of OCR to enhance metadata via additional services (uBio, Sp2000) and vocabularies (Geography, Dates). Additionally, discussions on portal development, documentation, handbook, WP3 deliverable D3.7 and the GUID process took place.

Berlin, Germany: A three day BHL-Europe side meeting took place during the Biosystematics event in Berlin (23-25 February 2011). This was an opportunity for the WP3/WP2 Leads as well as other members of the tech group to come together and discuss further many topics relating to the development process and technical aspects of the final BHL-Europe architecture. The sessions included a presentation given by Andreas Kohlbecker (BGBM) providing further clarification on the data workflow process and data enrichment during Pre-Ingest. Based on the outcomes of that discussion, we were able to revise our architecture diagram as well as making further modifications to the data workflow process. Furthermore it was agreed that the Taxonomic Metadata enrichment needs to be moved into the Pre-Ingest area.

The WP3 Leader presented a proposal for a Global GUID minting solution which was ratified along with Chris Freeland from MOBOT. The GUID Mint will provide a unique identification usually in the form of a Universal Resource Identifier (URI) or Location (URL) for a digital object. The overall objective is to build a Global mint that must be both robust and resilient for a Global Architecture. The proposed solution is based on a GlobalBHLResolver model which will offer the availability of a Global service. Chris Freeland has taken the model back to the US to test the viability of the solution which will also require further investigation and testing with the BA as well as our own technical experts. The BA has implemented a GUID approach based on [Handle.net](http://www.handle.net/)³⁵. Now that we have had the opportunity to see their system running we are in a good position to start implementing the same techniques for our final BHL-Europe System. We also used this opportunity to discuss on going work progress, issues, dependencies etc. that exists between WP2/WP3 development work. UBER have also confirmed the availability of Dennis Zielke as an additional resource to assist with the Portal (Drupal) development work. The full minutes from that meeting are available on the [BHL Wiki](#)³⁶.

Graz, Austria: During the Technical Meeting in Graz, Austria, we reviewed the current development progress of AIT in preparation for the annual review of BHL-Europe. We carefully evaluated the status quo of the Pre-Ingest component and the Drupal work (portal) and identified the roadmap for the next few weeks. We also worked on the dependencies of the other OAIS modules to better organise the development work. Further we decided to identify all current ambiguities within the development process and to clarify all open questions in order to quickly move on. It is important to separate the discussions of concepts from the discussion of the actual implementation work to speed up the development work. The full minutes from that meeting are available on the [BHL Wiki](#)³⁷.

³⁵ <http://www.handle.net/>

³⁶ <https://bhl.wikispaces.com/NOTES!+Actions+Items!+Further+Considerations!>

³⁷ https://bhl.wikispaces.com/BHLE_TechGraz

3.0.3.2 Finalisation of the BHL-Europe Schema

In order to fulfil all requirements it was necessary to further enhance the BHLE-Schema. The schema incorporates several standards and interconnects them so that they can be used to describe literature on any information level (monograph, serial, item, article, page, etc.). As this is a universal approach it was decided to rename the BHLE-Schema to OLEF (Open Literature Exchange Format).

As the new schema is only evolving in details and the general structure is set up, we started to map the metadata of several content providers to the new OLEF schema (Fig. 1, 2). So far UH-Viikki, BnF, RMCA, CSIC and RBGE have been mapped and are ready to be ingested. Out of these mappings several standard mappings have been set up (like MARC21, MARCXML, RefNum, MODS and DC).

OLEF is now also officially hosted by the [BHL-Europe Web site](http://www.bhl-europe.eu/bhl-schema/v0.3/)³⁸ in order to provide a solid and constant namespace for the schema.

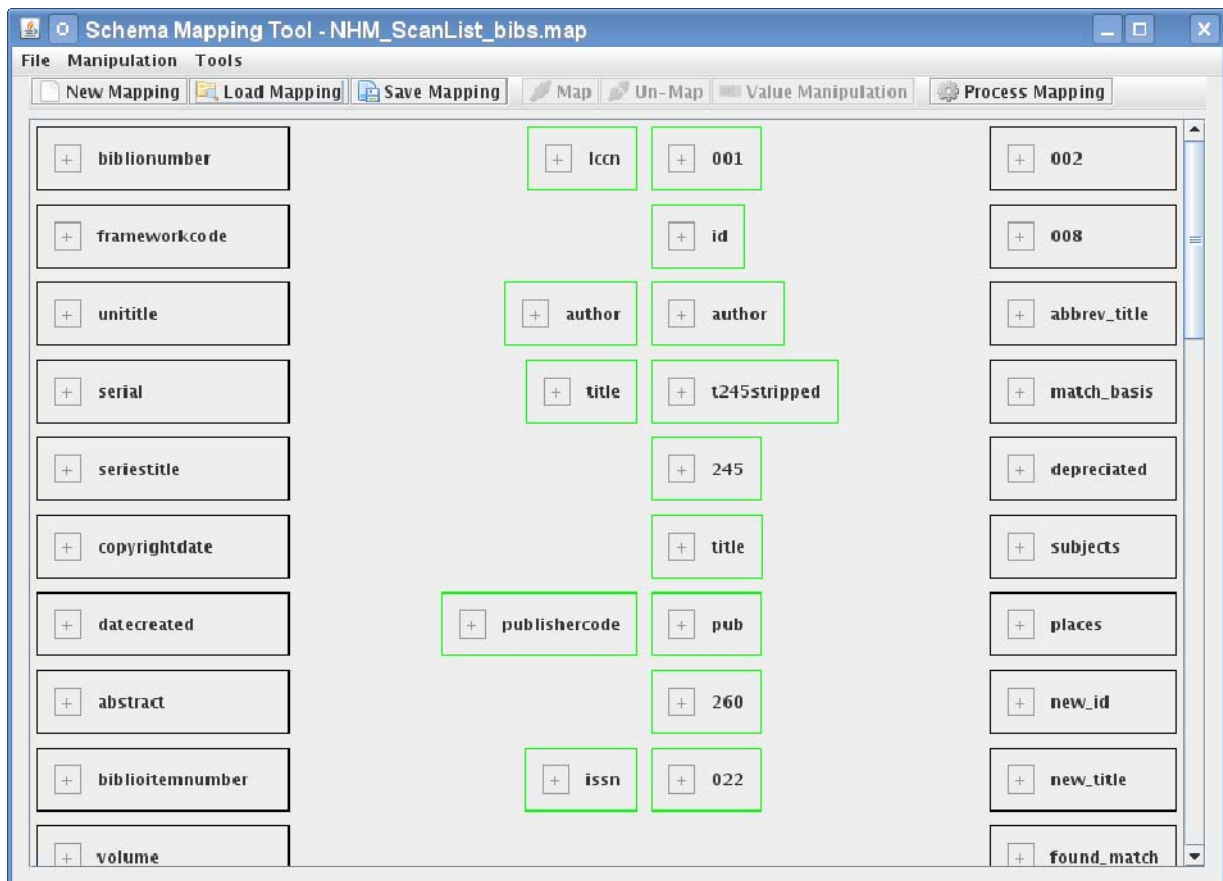


Figure 1 - Example of Schema Mapping

³⁸ <http://www.bhl-europe.eu/bhl-schema/v0.3/>

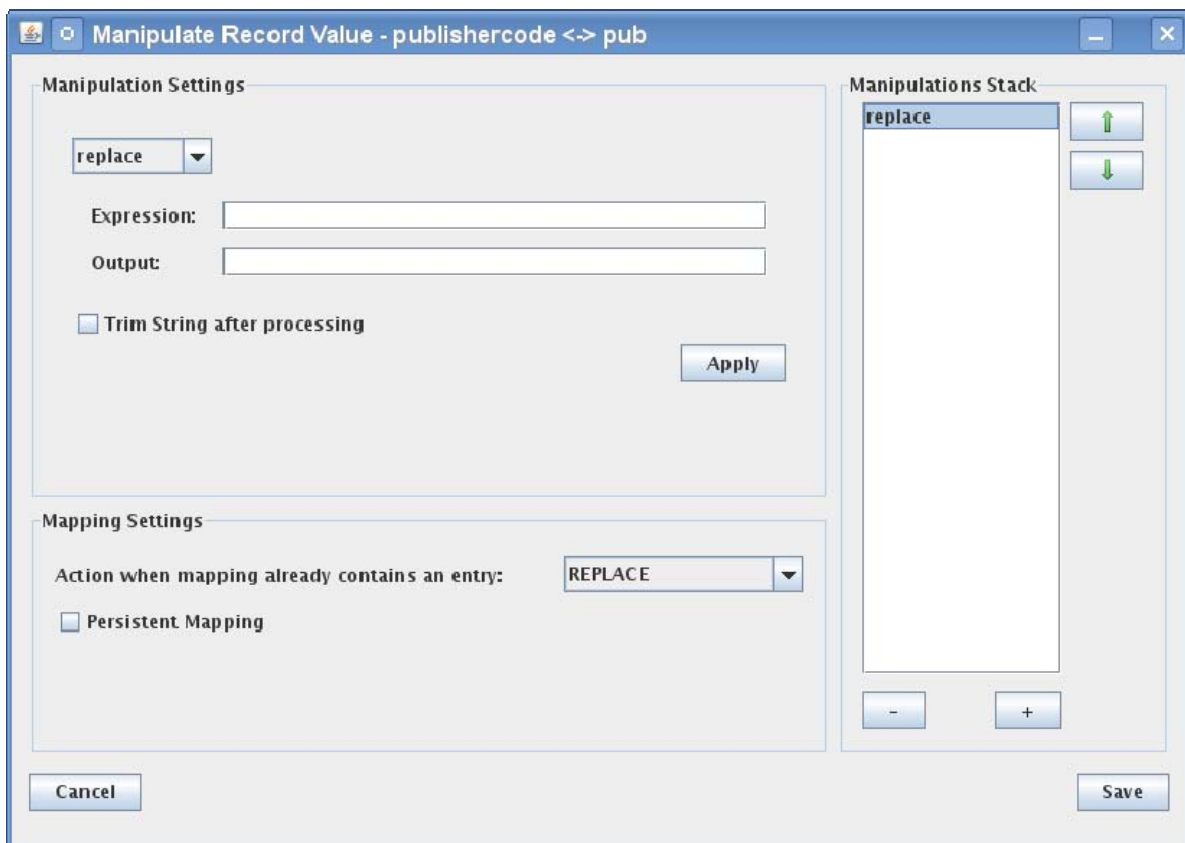


Figure 2 - Example of Data Manipulation using Schema Mapping Tool

3.0.3.3 *BHL-Europe Portal Development Workgroup Sessions during Content Provider and Technical meeting, London*

Jana Hoffmann (MfN) organised two sessions during the BHL-Europe Content Provider and Technical Meeting in London 1 December 2010 on taxonomic intelligence and the BHL-Europe portal development.

Taxonomic Intelligence tools for the BHL-Europe Portal: The first session was addressing the need for a taxonomic intelligence tool in the BHL-Europe portal. The consortium partner Sp2000 representing the Catalogue of Life (CoL) was invited to share their experience and knowledge on taxonomic intelligence with the consortium and the technical partner in the BHL-Europe project. Prof F. Bisby (Executive Director of Species 2000) and Dr. Y. Roskov (Catalogue of Life Executive Editor, Species 2000) attended two days of the BHL-Europe meeting in NHM London on 1-2 December 2010. F. Bisby made a presentation “Names, taxa and synonymic indexing” on Taxonomic Intelligence session. Both F. Bisby and Y. Roskov participated in discussions on BHL-Europe Portal Development workgroup meeting and shared their ideas on potential use of the CoL as taxonomic backbone for structuring digitised publications. Latest versions of the CoL database and technical documentation have been delivered to WP3 for analysis of the potential use of the CoL index as taxonomic metadata in the BHL-Europe portal. It became clear that a precise definition of what we mean by taxonomic intelligence is needed.

During this session it was decided that we will use the uBio TaxonFinder to identify potential taxonomic names (contact Chris Freeland, MOBOT). This will be the BHL-Europe automatic ‘name finding’ component. However, CoL will provide a more elaborated service in terms of

‘real’ taxonomic intelligence. Identified ‘names’ in the BHL-Europe content, either by using the Taxon Finder or provided by the content provider in the metadata, will be linked with the CoL and thus a systematic biological classification (hierarchy), synonyms and colloquial names will be accessible and will improve the recall of relevant literature. Technical implementations were already discussed during the meeting and are in progress. Other services like AnimalBase, providing species protologues, will be approached in a next step. Furthermore a service to improve the search for author’s synonyms, Virtual International Authority File (VIAF), was discussed and will be implemented in the BHL-Europe system. Meanwhile, BHL-Europe has all access data and permission to use the VIAF database. It is suggested to introduce a gateway to access different vocabularies after the inventory of all vocabularies relevant for BHL-Europe is finished.

BHL-Europe Portal Development: During the second session on the portal development the catalogue of user requirements was briefly presented and discussed with the participants. Furthermore, relevant topics like OCR (tools, crowd sourcing), technical documentation and quality control (test cases), portal testing (usability tests, user survey) and web statistics (Google Analytics, NHM server log files, and user profiles) were discussed and next steps were planned. The minutes of the portal development sessions can be found on the [BHLWiki](#)³⁹.

3.0.3.4 Integration of BHL services into EDIT Platform for Cybertaxonomy Tools

Andreas Kohlbecker (BGBM) was working on the integration of functionalities to directly search for digitised content offered by BHL. This new user interface allows using the OpenURL resolvers of BHL directly from within the Taxonomic Editor. Initially the Open URL service from BHL-US is being used until the according service in BHL-Europe becomes available.

3.0.3.5 Development of the Pre-Ingest Tool

Different approaches and technologies have been tested and evaluated to accommodate functionalities needed to be delivered by Pre-Ingest. Integration aspects are most important and Pre-Ingest is using Messaging (Enterprise Integration Patterns) to be as flexible as possible and facilitate integration of different technologies, such as PHP, Java, Python, Shell scripts. The environment to deliver the needed UI interface was setup using a Java Tomcat-based web application framework (Spring).

The UI concept was created and contains three important views: users can select folders which need to be processed, users can view the status of currently running jobs in a log file, users can take a look at the processed metadata and data to verify them. In addition various services have been implemented to extract metadata out of the submitted information packages and create archival information packages (AIP). The AIP is based on the metadata standards METS and MODS.

A live online presentation of the current status of Pre-Ingest development was held at the beginning of Month 23. Deployment of Pre-Ingest components on the servers in London was worked through together with Atos.

The Pre-Ingest development is completed as a its first version, and deployment was successfully completed to bhl-mandible.nhm.ac.uk:8080/PreIngest. It is currently offline due to further development work that we need to carry out to make adaptations (such as changes

³⁹ https://bhl.wikispaces.com/file/view/Portal+development_session_minutes.pdf

in how the AIPs are structured). Pre-Ingest is continuously enhanced because of ongoing developments (such as inclusion of OCR).

3.0.3.6 US Data Transfer to BHL-Europe Servers

The content upload is ongoing; currently we have agreement to ship the data from the US on a set of discs holding the remainder of the initial content. This will significantly speed up the process of data transfer and allow to progress to the next phase data synchronisation over the WAN (Wide Area Network). WAN tests are ongoing and currently we have achieved a moderate data rate of approx. 2 GB per day directly from the Internet Archive. Through various configuration changes we hope to increase the throughput.

3.0.3.7 Development of the Portal System

The decision was made to use Drupal 7 instead of Drupal 6.20, since Drupal 7 is officially stable. Citebank source code (Drupal based) was investigated and the Drupal module biblio has been identified to cover certain features. Various OAI importers are still investigated and it is reviewed how they are tied into Citebank (such as Extensible Catalog OAI Importer). The Drupal API (Node, Field, Forms, Node Access) was analysed and all development efforts are based on delivering modules which are based on API functionality, so future Drupal engine upgrades can be easily applied. An ESE Metadata importer and Node View was developed to load external data into Drupal nodes. The module Apache Solr Integration was used and all nodes containing ESE Metadata have been indexed successfully and are fully search- and retrievable.

The Drupal simple and advanced search have been further developed and a simple version of file import was implemented. Custom Stylesheets for viewing imported data have been created. Modul installation and deinstallation was checked and a custom configuration page for the BHL-Europe ESE module to select the relevant stylesheets for display in the Drupal node was developed.

3.0.3.8 Ingest to Archival Storage

Atos adopted the Book content model from the Island Lives project for Fedora and delivered an AIP candidate for bulk ingest into Fedora. To enable bulk ingest into Fedora Atos developed scripts based on Islandora components that allow digital objects (delivered by the Ingest) to be ingested automatically into the Fedora repository.

3.0.3.9 Software environment strategy and planning

As BHL-Europe is a consortium with multiple development partners, the process of software development to production is complicated. Several environments are required to host activities in various phases, such as development, integration, functional testing, load testing, pre-production, production and maintenance. In order to achieve this Atos provided an organised file system at the NHM to various environments (dev, stage, prod, etc.) and also developed an organised software component list including information on location of dependencies (JDK, PHP, Tomcat, etc.). This will allow an organised and harmonised shared development environment between consortium partners

BHL-Europe is now using [GitHub](http://github.com/bhle)⁴⁰ to allow a distributed development between the various team members. When created, the initial project organisation was differentiated by components (pre-ingest, portal, etc) and a project workflow was created whereby the master is

⁴⁰ <http://github.com/bhle>



the mainline development branch and milestones are delivered to a separate release branch. For the Portal an initial version of Drupal 7 was committed. Testing is conducted on the detailed workflow to minimize code conflicts, particularly with the shared development database. When the testing is completed a detailed procedure will be posted on the BHLWiki. We are also using [Jenkins](#)⁴¹ to enable continuous integration, automation of testing and deployment. Jenkins monitors executions of repeated jobs, such as building a software project. Jenkins provides an easy-to-use ‘continuous integration system’, making it easier for developers to integrate changes to the project, and making it easier for users to obtain a fresh build. The automated, continuous build increases the productivity. Jenkins will be linked to the GitHub repository to obtain source code for the build versions deployed to the BHL-Europe environment.

3.0.3.10 Architecture Components for BHL-Europe System

Atos continues its role in providing technical direction for the project by evaluating Islandora which will be used in the Data Management component and possibly the Access component. Furthermore they were driving the decision-making process for the GUID mint/resolver technologies and schema. This included a meeting with the technical team of the Library of Alexandria to validate certain architectural choices, such as the use of Handles.net.

⁴¹ <http://jenkins-ci.org/>

3.0.4 Status and progress of activities – WP4

During this reporting period the WP4 leader pushed forward with the development of deliverables for M24 as well with agreements with BHL-US and Europeana.

WP4 leader collaborated with WP1 and WP2 in the development of the revised Memorandum of Understanding for existing and prospective content and data providers for the project. The WP4 leader obtained legal advice on the suitability of a MoU for this purpose and the simplest way to ensure agreements with BHL-US and Europeana meet the needs of the project during and beyond its three year term. The WP4 leader re-wrote part of the MoU as a consequence of this. The new MoU and new Europeana Data Exchange Agreement are currently being reviewed by an NHM lawyer for compatibility.

Regarding the development of the agreement with Europeana, the WP4 leader attended Europeana working groups in The Hague on data sharing, Linked Open Data, and the continued development of their Data Provider and Data Aggregator agreements, (now Data Exchange Agreement). The workshop was used to discuss the perceived and actual risks and rewards of more generous terms of re-use of data than the existing non-commercial provisions of the data provider agreement. The results of this workshop are to be analysed alongside the possible rewards of freer reuse, and they form part of a second round of consultation on the Agreements with the providers and aggregators for the Danube release of Europeana in the first half of 2011.

The WP4 leader also attended the Europeana plenary in Amsterdam where the value of data sharing and open access was discussed broadly. Among those speaking and sharing their experiences were the National Portrait Gallery London, Wikipedia, legal experts and Google Books. These discussions impact D4.1 agreements with BHL and Europeana for reciprocal access, Rights metadata and the sustainability issues considered for D4.3.

During this period WP4 leader was invited to be part of the core legal group for Europeana which will involve the recommendation of the Data Exchange Agreement to the Council of Content Providers and Aggregators.

During the December Project Review meeting in London the WP4 leader contributed to discussions and content provision for the WP2 Best Practice Guide regarding rights clearance, metadata standards for rights information, licensing and Open Access terms of participation in the project for prospective content providers.

Partners including, UGOE, MNHN, RMCA and NBGB worked on their internal rights clearance process and prioritisation to ensure that the maximum amount of content can be provided to BHL-Europe in the shortest time.

Activities in WP4 are expected to end in May 2011 upon completion of all deliverables in month 24 of the project. It is also anticipated that limited IPR support will be available until 31st March 2012 from the IPR Officer at the Natural History Museum in London.

3.0.5 Status and progress of activities – WP5

3.0.5.1 CWG meetings

During the Content Provider and Technical meeting in London in December, the CWG held a separate [Dissemination Workshop](#)⁴². Several points were discussed:

- The transfer of the website to a Content Management System (CMS), including a database for events and a general update of the website.
- The production of new promotion material such as fact sheets, new flyers, new demonstrator, and others.
- The improvement of internal communication by organising a monthly open PMG call for all partners providing information on the latest technical work, and time for open questions to the project coordinator and work package leaders.
- Changes and improvement of the WP5 work plan.
- The set-up and planning of the virtual exhibitions, discussion of first ideas and coordination with Europeana in terms of guidelines and technical possibilities.

This workshop was followed by a small CWG meeting (only RBINS and NMP) in Prague at the end of December 2010. Here the news-workflow between events, the BHL-Europe blog, Facebook, Twitter and the BHL-Europe Newsletter was discussed. In addition there were further discussions about the virtual exhibitions and the WP5 work plan was finalised.

3.0.5.2 BHL-Europe Website - <http://www.bhl-europe.eu>

The BHL-Europe domain was moved from the server Active24 to the new server FORPSI in preparation for the Drupal conversion and finally converted to the Content management system (CMS) Drupal. The successful setup of Drupal for our Web site facilitates the regular update of the site by the CWG and the management of the different languages. However, the domains for the BHL-Europe project Web site are still 'bhl-europe.eu' and 'bhle.eu'.

Several changes were implemented concerning the design of menus and content (new colours, fonts, pictures, etc.) and the integration of a new module for the BHL-Europe Newsletter subscription providing better anti-spam protection. Furthermore the following items were updated: “Partners” menu: “Information for partners” - BHL-Europe in a nutshell (available in English, Spanish, French and Russian) and “Intellectual Property Rights”; “Events” menu: “Events Outlook” and “Carried out Events”; “Outcomes” menu: “Demonstrator and Promotion material” – Europeana press release and BHL-Europe fact sheets.

There is ongoing progress with the translation of the project Web site into other European languages thanks to the help of our project partners. The BHL-Europe Web site is now available in eight different languages (English, German, Spanish, French, Russian, Czech, Italian and Slovakian). More languages are to be implemented during the next project year (Hungarian, Finnish, Dutch and Polish).

In addition Google Analytics was implemented to monitor the usage, user behaviour and traffic of our BHL-Europe Web site and to produce statistics for further evaluation.

3.0.5.3 Usage of BHL-Europe Web site – Google statistics

Google Analytics is monitoring the use and traffic of our BHL-Europe project Web site since 1 January 2011. At the end of the reporting period we had a total of 1,142 unique visitors

⁴² https://bhl.wikispaces.com/file/view/CWG_Minutes_101201.pdf

using 43 different browser languages and coming from 77 different countries and territories. In total we had about 12,115 page views.

The positive conclusion of the Google Analytics is that the number of new unique visitors of BHL-Europe project Web site is growing. The most frequent visitors are from Germany, UK and the United States. The most-used languages of a total of 43 different languages are English and German. However, this will change soon as the Web site is now also available in French and Russian and more languages, e.g. Dutch, Finnish etc., will be available in future. Most of our users (41%) access the BHL-Europe Web site directly and about 25% of the visitors are referred from other sites such as Europeana (europeana.eu), the ScanList (bhl.nhm-wien.ac.at) and Twitter. About 34% of the visitors find the BHL-Europe Web site by using a search engine, in most cases Google.

Accordingly, future goals and tasks for improvement of visibility of the BHL-Europe project Web site are:

- presenting new products and information, in particular the BHL-Europe Portal and the BHL-Europe Virtual exhibition (BLE). This will increase the awareness of the entire project including the BHL-Europe project Web site.
- making more use of social networks media and providing news about BHL-Europe products.
- publishing more Web site translations, such as Dutch, Finnish, Portuguese, etc.
- presenting new images on the BHL-Europe Web site.

More detailed information can be found on the [BHLWiki](#)⁴³.

3.0.5.4 Develop, prepare and update promotion kits and related printed matters

The conference bags for the BioSystematics Berlin 2011 conference (see detailed report in the dissemination section) were prepared by Pavel Štastný in the end of January. They were produced and delivered to Berlin and about 500 bags were filled with promotional material, including the BHL-Europe flyer, for the conference by volunteers at MfN. Each participant of the conference was handed out a bag thus reinforcing the BHL-Europe brand.

Pavel Štastný (NMP) produced a draft and the final design for the new BHL-Europe folder. About 1000 folders were produced and will be used during contractual meetings and for dissemination activities.

The production of a BHL-Europe e-Christmas card was suggested by the WP2 leader and a layout was decided in cooperation with the NMP artists. The Christmas card was sent to the consortium and external contacts together with the BHL-Europe Newsletter 5-6 at the end of December 2010.

A few BHL-Europe staff members participate regularly in sport events: cycling races, road running events, triathlon. MfN created BHL-Europe three bike jerseys to be used in these events in order to approach a specific group of general interest readers. Sport jerseys have proven to be very effective in raising awareness. We would like to encourage both the spectators and the athletes to talk to us and ask questions. This will help to get more people interested in BHL-Europe and in particular help to attract the general interest user in our project and outcomes. We consider this as a test to see if the people really approach us. There are already several events planned where the jerseys will be tested, e.g. [Einzelzeitfahren Velo](#)

⁴³ https://bhl.wikispaces.com/BHLE_WP5

e.V.⁴⁴ – 29 May 2011 (individual time trial) and [Berlin Triathlon](http://www.berlintriathlon.de/)⁴⁵ – 19 June 2011 (Olympic triathlon).

3.0.5.5 BHL-Europe logo

As part of our business development work, we need to plan the transition of BHL-Europe from a project-based service into an operational service. In this context we are also working on the branding of the product and on new or modified logos that help in building up the BHL-Europe brand. NMP invested some time over the last months in conceptual and design work. In parallel we pushed the public presentation of the existing BHL-Europe logo to test the perception of BHL-Europe as a brand (e.g. during the BioSystematics conference). It turned out that BHL-Europe is well perceived in the community and the existing design concept works very well. As a consequence, NMP did some logo modifications to further support the brand building of BHL-Europe (example Fig. 3).



Figure 3 Example for a modified BHL-Europe logo.

3.0.5.6 BHL-Europe Newsletter

[Newsletter 5 and 6](#)⁴⁶ were combined and sent to the consortium and external contacts at the end of December 2010. The combined Newsletter contains project news, information about BHL-Europe meetings and contributions about Europeana (“Europeana Supports Public Domain”), vifabio (“Vifabio – Subject portal for the various facets of biology”; “Overview of historical biology literature digitisation projects – compiled by vifabio, the Virtual Library of Biology”), the GRIB (“EDIT’s Virtual Taxonomic Library (ViTaL) and BHL-Europe cooperate on the Global References Index to Biodiversity”) and the Europeana Council of Content Providers and Aggregators.

As the WP5 working group now has a new system to retrieve articles for the Newsletter 7, it was difficult to predict a timeline. A lot of time was spent on contacting people and sourcing relevant news for the Newsletter. The BHL-Europe Newsletter 7 was finished recently and distributed using our various public relation media, e.g. mailing lists, Facebook, BHL-Europe Web site, etc. The Newsletter 7 contains contributions about Europeana, the EDIT project, the

⁴⁴ <http://www.velo-ev.de/index.php?page=135>

⁴⁵ <http://www.berlintriathlon.de/>

⁴⁶ <http://www.bhl-europe.eu/newsletter.php?lang=en>

[Field Book Project](#)⁴⁷, the BHL-Europe blog, the BioSystematics conference, as well as news about the BHL-Europe project meetings and project progress.

The BHL-Europe Newsletter mailing list, bhl-e.newsletter@lists.hu-berlin.de, was updated on a regular basis and new subscriptions added (190 subscriptions).

3.0.5.7 Facebook, BHL-Europe blog, BHL-Europe Twitter and Netvibes

The [BHL-Europe Twitter](#)⁴⁸ account and the [BHL-Europe Facebook](#)⁴⁹ page are used to make short announcements of project news, events where BHL-Europe is promoted, or to spread news from Europeana and our partners. The Facebook page was created in October and had 42 ‘friends’ at the end of December. The page was updated and checked on a regular basis and at the time of writing had 85 ‘Facebook friends’, twice as many as 3 months before (Fig. 4). During a meeting in Belgium Boris Jacob (RMCA) agreed to be responsible for updating the BHL-Europe Twitter account. At the end stage of writing the BHL-Europe Twitter had 48 ‘followers’. The [BHL-Europe blog](#)⁵⁰ is also active since a few weeks and will be updated on a regular basis. In future the BHL-Europe blog will be used for short news about work from our BHL-Europe partners or related projects. We further synchronised the update of news in the Web Site, the blog, Facebook and the BHL-Europe newsletter. The [BHL-Europe Netvibes](#)⁵¹ account is also updated on a regular basis.



Figure 4 BHL-Europe's Facebook page followers (December (launch) – April)

3.0.5.8 Virtual exhibition

The planning of the virtual exhibitions for BHL-Europe started during the CWG Workshop in December in London by producing a list of tentative candidates themes. It was then agreed that it will be called ‘BLE – Biodiversity Library Exhibition’. The domains ‘biodiversityexhibition.com’, ‘biliex.com’ and ‘b-l-e.com’ were registered by the FORPSI Company and are hosted together with the other BHL-Europe domains. During the conference call on 4 January 2011 between partners from NHM (Graham Higley), MfN (Henning Scholz) and the European Library (Aubéry Escande), initial ideas and concepts for

⁴⁷ <http://www.mnh.si.edu/rc/fieldbooks/>

⁴⁸ <http://twitter.com/BHLEurope>

⁴⁹ <http://www.facebook.com/pages/BHL-Europe/151086001600041>

⁵⁰ <http://bhleurope.blogspot.com/>

⁵¹ <http://www.netvibes.com/bhl-europe#Projects>

BHL-Europe's virtual exhibition were discussed. The European Library was asked for permission using their [Reading Europe](#)⁵² as a model for BHL-Europe's virtual exhibition. However, it was realised that we need more than Reading Europe can provide. The company [IT4Care](#)⁵³ was asked to support the further development of the BHL-Europe virtual exhibition. The basic technical and graphic concept was then prepared by Pavel Štastný in collaboration with IT4Care including a first draft of the BLE topic page and the final version of the BLE logo corresponding with the BHL-Europe logo.

The exhibition Web site has 3 levels: 'homepage', 'topic page' and 'book annotation card'. The topic page can be displayed using several sorting options (categories): 'Countries' (where was the book published), 'Languages' (in which language the book was written), 'Timeline' (when was the book published) and 'Subjects' (which main subjects are included in the book). The main topic of the first exhibition is "Spices" having a large potential in attracting a broad audience and being promoted intensively via the internet. Providing information on spice in connection with spice plants and linking this information with the BHL-Europe content is a unique and thus a very promising approach.

As a first step information on spices in the BHL content using the Latin names of "spice plants" was collected. In the 'Spice' exhibition about 50 different sorts of spices and the respective plants can be found. Every spice will be represented by an information card including: illustrations of the spice plant from the respective book (found in the BHL-Europe content), the English name of the spice, the Latin name of the spice plant, a picture of the spice, a blog entitled "Did you know that...?", a blog with a short story about the spice and the spice's history and a blog with a cooking recipe. The 'Find me in books' button provides a link from the spice (topic page) to the books in BHL-Europe where the respective information can be found ('book annotation card'). At present the book annotation card is directly linked to the BHL-US portal. This first prototype exhibition on 'Spices' will be available at the end of April (Fig. 5).

The backbone structure for the virtual exhibition was set up in Drupal on a Drupal hosting server. IT4care developed the application for sourcing the metadata from the BHL-US portal and a content management system for editing book annotation cards and topic pages content was developed and set up. Every annotation card includes information on: original name of the book, author/s, publishing date and place, publisher, language of the book, content provider of this book, picture of the book's front page, volumes of the book in the BHL content, list of the subjects included in the book, e.g. spice plants, and links to the BHL-US or BHL-Europe portal. This content managing system will be used for various other topics in future exhibitions, e.g. 'Expeditions' (in preparation by our partner RMCA). The metadata and links are provisionally retrieved from the BHL-US portal, but will be linked to the BHL-Europe portal as soon as possible. This is because BHL-Europe does not have a stable portal yet. BLE is designed as a multilingual Web site and the language of the prototype is in English.

The main goal of the BLE is to increase awareness of BHL-Europe content in the wider public and promote the usage of the BHL-Europe portal once it is fully functional. The BLE prepares the BHL-Europe content in a way that has a great potential to attract a broad spectrum of visitors by providing stories, further information, recipes and attractive illustrations and photos. It is planned to be promoted at the beginning of August via Facebook

⁵² <http://www.theeuropeanlibrary.org/exhibition-reading-europe/>

⁵³ <http://www.it4care.cz/>

and Twitter by posting three news per week – ‘Spice of the week’, two ‘Recipes’ and a ‘Book of the week’.



Figure 5 BLE - first prototype exhibition on 'Spices'

3.0.5.9 Case studies

We could increase the number of the case studies for BHL-Europe to 10 as planned (see KPI section). For this purpose we used the Europeana and BHL-US portals. There are 5 more studies focused on non-scientific use of the content. However, most of the non-scientific users focus on the images/ illustrations in the BHL content and use them for their Web sites, but also for illustrating cookery books. Another user was interested in gardening and was grateful for a rare British gardening journal. However, it still remains difficult to find examples for non-scientific use of the biodiversity content of BHL-Europe. Therefore we are trying to increase awareness of the BHL-Europe content in the wider public with several activities, e.g. virtual exhibition, bike jerseys, etc. This will be one of the major tasks in project year 3 of BHL-Europe.

3.0.5.10 Project publications in the current reporting period

Abstracts:

- **Zielke, D.** (2011). Aufbau einer globalen digitalen Bibliothek von Literatur zur Artenvielfalt - Vernetzungstage 2011: Wissen schafft Vernetzung: Kooperationen & Mehrwertdienste für Repositorien in vernetzten Umgebungen, Osnabrück.

Published [abstracts](#)⁵⁴ for the BioSystematics Berlin 2011:

- **Bisby, F.** (2011). Taxa, Names and Indexing Infrastructures - BioSystematics Berlin 2011.
- **Freeland, C.** (2011). Digitization and enhancement of biodiversity literature through OCR, scientific names mapping and crowd-sourcing - BioSystematics Berlin 2011.

⁵⁴ http://www.biosyst-berlin-2011.de/Biosystematics_Abstracts.pdf



- **Kohlbecker, A. & Boris J.** (2011). The EDIT platform for cybertaxonomy – an open architecture for taxonomic data processing.” - BioSystematics Berlin 2011.
- **Scholz, H.1 & Garnett, T.** (2011). World wide access to biodiversity literature: The Biodiversity Heritage Library.- BioSystematics Berlin 2011.

Publications:

- **Fabri, R. & Hanquart, N.** (in press). BHL-Europe : bibliothèque européenne virtuelle de la biodiversité - *Natura Mosana*.
- **Ng, Lesa,** (2011). Biodiversity Heritage Library for Europe - *The Forum (Scottish Biodiversity Forum newsletter)*. <http://www.snh.gov.uk/docs/B822932.pdf>
- **Onttonen, T., Kärki, S. & Koskinen, K.** (2010). Monikielinen biodiversiteettikirjallisuusportaali : BHL-Europe löytää lajitiedon digitaalisista kokoelmista (Multilingual portal for biodiversity literature), - *Luonnon Tutkija*, Vol. 114: 178. <http://hdl.handle.net/10138/24964>
- **Scholz, H.** 2011. Europe’s local biodiversity library. - *International Innovation, Environment, Issue 1: 71-73; Research Media Ltd, Bristol, UK*.
- **Scholz, H.** (in press). Altes Wissen in neuem Gewand. – *In: Allianz der Wissenschaftsorganisationen: Wir erforschen Kommunikation*.
- **Jacob, B., Hoffmann J. & Scholz, H.** (April 2011). BHL-Europe at the BioSystematics Berlin 2011. – *BHL-Europe Newsletter 7*.
- **Smirnova, L., Mergen, P., Gerard, I. & Doutrelepont-Kenis, L.** (in press). Biodiversity Heritage Library for Europe: we are halfway!. - *JAZ (Journal of Afrotropical Zoology)*.
- **Valdecasas A.C.,** (2011). Biodiversity Heritage Library (BHL): A new digital portal for biodiversity studies. *In: Islands and Evolution, Perez Mellado & Ramón (eds), 309 – 315*.
- **Valdecasas, A.C., Cayuela, L. & Becerra, J.M.** (2011). Chapter: Biodiversidad and Cibertaxonomía (including information on BHLE), - *In: Biodiversidad. El Mosaico de la Vida*. 3,000 paper copies and the pdf is freely accessible at www.fecyt.es

3.0.6 BHL – Extract from the Program Director’s Report (Tom Garnett)

Chris Freeland and Mike Lichtenberg attended the Darwin’s Library Project Meeting in October in London at the National History Museum.

While in London Chris Freeland had a meeting in Oxford with Ed Pentz and Geoffrey Bilder from CrossRef to discuss assigning DOIs to BHL content. The outcomes of this meeting helped to clarify some doubts about DOIs and sparked a fruitful discussion via the BHL-Europe tech list and conference calls. This helped to decide on how to move forward assigning GUIDs for the project elements.

A test set of BHL texts, including examples of main issues encountered, was developed for evaluation in EU-funded IMPACT project, focusing on OCR improvement evaluation and comparison from different initiatives.

Chris Freeland, Martin Kalfatovic and Keri Thomson from BHL-US visited the Chinese Academy of Science in November to share their experiences, review issues and comment on optimising the scanning process.

BHL soft launches [Citebank v.1.0](#)⁵⁵, an open access platform to aggregate citations for biodiversity publications and deliver access to biodiversity related articles, using Drupal and Fedora.

In January Chris Freeland gave a presentation during the 4th Annual Global Plants Initiative in Panama, entitled “Biodiversity Heritage Library & JSTOR Plant Science”⁵⁶ and Phil Cryer presented on “BHL Process and Progress” during the [Vibrant meeting](#)⁵⁷ in Paris.

In February BHL received funding from the Richard Lounsbery Foundation for the [Life and Literature Conference](#)⁵⁸ to be held in Chicago November 14-15, 2011. During the Biosystematics Berlin 2011 conference Chris Freeland gave a presentation entitled “[Digitization and enhancement of biodiversity literature through OCR, scientific names mapping and crowdsourcing](#)”⁵⁹.

In March Chris Freeland attended the BHL Institutional Council meeting in Washington, DC. where the Proposal on Global Priorities for the 2011-2012 period was approved with congratulations. Furthermore he attended the 2011 IMLS WebWise Annual Conference in Baltimore, Maryland. This years’ topic was Libraries and Museums in the Digital World. Science, Technology, Engineering + Math (STEM) in Education, Learning, and Research.

Chris Freeland, William Ulate and other US partners participated in the BHL-Europe techgroup’s fortnightly conference calls on a regular basis.

⁵⁵ <http://citebank.org/>

⁵⁶ <http://biodiversitylibrary.blogspot.com/2011/01/biodiversity-heritage-library-jstor.html>

⁵⁷ <http://www.slideshare.net/phil.cryer/biodiversity-heritage-library-progress-and-process>

⁵⁸ <http://www.lifeandliterature.org/>

⁵⁹ <http://www.slideshare.net/chrisfreeland/digitization-and-enhancement-of-biodiversity-literature-through-ocr-scientific-names-mapping-and-crowdsourcing>

3.1 Resources employed

The financial statements for the second year of the project (May 2010 to April 2011) are currently collected, checked and approved. As this process is not finalised yet, the numbers for the resources employed for the reporting period is not final for several of our partners. More details are in the footnotes of the table. However, as we collect the activity reports of all partners on a monthly basis, the figures below are very close to the final numbers and give a very good indication of the resources employed in the reporting period. We will submit the final table together with the financial statements.

Resources employed for the reporting period (person-months)⁶⁰						
Beneficiary short name	WP 01	WP 02	WP 03	WP 04	WP 05	TOTAL
MfN	5.72	6.88	1.44	0	0.76	14.80
NHM ¹	0	0	1.50	0.96	0	2.46
NMP	0	0	0	0	9.14	9.14
EDLF	0.12	0.31	3.18	0	0.13	3.74
AIT	0.01	0	12.19	0	0	12.20
ATOS	0	0	7.29	0	0	7.29
FUB-BGBM	0.09	0	2.58	0	0	2.67
UGOE	0.12	0.70	0.08	0	0.04	0.94
NHMW	0	0	3.65	0	0	3.65
LANDOE	0.08	4.44	0.55	0	0	5.07
HNHM	0	5.80	0	0.09	0	5.89
MIZPAS	0.11	0.14	0	0	0	0.25
UCPH	0	0.61	0	0	0	0.61
NAT	0	1.50	0	0.01	0	1.51
NBGB	0.09	0.96	0	0.01	0.03	1.09
RMCA ²	0.00	8.27	1.72	0.00	0.81	10.80
RBINS	0.22	1.10	0	0.02	2.03	3.38
BnF	0.18	1.07	0	0	0	1.25
MNHN	0.05	3.68	1.05	0	0.01	4.79
CSIC	0.06	1.29	0.05	0.02	0.18	1.60
MSN	0	0.59	0	0	0.13	0.72
RBGE	0.15	4.49	0	0.03	0.72	5.39
Sp2000	0	0	0.33	0	0	0.33
Wiley	0	0	0	0	0	0
SIL	0	0	0	0	0	0
MOBOT	0	0	0	0	0	0
UH-Viikki	0.06	2.01	0	0	0.03	2.10
UBER	0.02	2.97	0.81	0	0.12	3.92
TOTAL	7.08	46.81	36.42	1.14	14.13	105.59

¹ NHM erroneously included subcontractor in the activity reports, which results in higher numbers for the hours of work. The hours contributed by subcontractors to the project are now excluded.

² RMCA did not provide person months per work package in the last reporting period and thus these numbers are estimated by the coordinator based on the hours of work in the RMCA's financial statement.

⁶⁰ The calculation of PM is based on productive hours mentioned in CPD form of partners.

3.2 Work Package Overview

Work package description

Work package number :	1	Start date:	M1	End date:	M36
Work package title:	Project Coordination and management				

Objectives for the period

Administrative objective: Ensure adherence of the consortium to the rules, regulations, and financial guidelines of the *eContentplus* programme; establish the project in the European biodiversity community.

Technical objective: Implement the project as set out in the work plan; ensure exchange of information and communication between partners; ensure progress of the project; guarantee timely deliverables.

QA objective: Ensure verifiable progress of the project and be committed to high quality output that has tangible impact on *eContentplus* programme objectives.

Business development: Develop a business plan for long term sustainability of BHL-Europe.

Description of work carried out and achievements

Task 1.1 – Administrative coordination

1.1.1 – Resource planning (financial, personnel, material), monitoring and controlling.

Achievements: For the technical development of the project (WP3, Task 2.1), task briefs and SCRUM are used. The backlog is in Google docs so all team members can access it. Furthermore, BHL-Europe is now using [GitHub](https://github.com/bhle/bhle)⁶¹ to allow a distributed development between the various team members.

1.1.2.1 – Liaison between the Commission, consortium members, EUROPEANA, BHL, and external experts; effective communication with the consortium members, Work Package leaders, the Commission, and interested external parties; coordination of meetings and progress reviews.

Achievements: Email, phone, Skype, BHLWiki, and regular personal meetings ensure effective communication between all parties involved in BHL-Europe and related to the work carried out in the project. Every Tuesday, the Project Management Group of BHL-Europe has a conference call to update on progress and to discuss recent developments and issues. Once a month this call is open for the consortium to get an update on the project progress and get in touch with other players in the project across WP. The IT team has a conference call every second Wednesday to review work progress and adjust the SCRUM planning. For special purposes and working groups, Google Groups is used to ensure effective communication. Furthermore, mailing lists are used to facilitate the communication of the content providers. Internal reports are produced quarterly to summarise the project progress for all consortium members. PCO of BHL-Europe is communicating with Europeana on a very regular basis on various levels (e.g. project management, content ingestion, CCPA). Since autumn 2010, the collaboration of the Europeana Group of Projects was intensified and the

⁶¹ <https://github.com/bhle/bhle>

next meeting of the projects is planned for 20 May 2011.

1.1.2.2 – Coordination of meetings and progress reviews.

Achievements: One contractual project meeting was held in this phase, in London from 30 November to 3 December 2010. Smaller meetings were held in Egypt (24-28 January 2011), Graz (30 March 2011) and London (7 April 2011).

1.1.3 – Production and consolidation of periodic external reports, including cost-statements; internal quality assurance; set-up of the Web-based project management portal.

Achievements: There are no specific achievements in this period as this is an ongoing task.

1.1.4 – Representing the project.

Achievements: The project was presented at various conferences and meetings (see below). The Project Coordinator represents BHL-Europe and the European museums in the Council of Content Providers and Aggregators of Europeana.

Task 1.2 – Technical coordination

1.2.1 – Work-package and task coordination.

Achievements: This is an ongoing task using the tools and services implemented before (Project Server, BHLWiki, Google groups).

1.2.2 – Project plan maintenance; monitoring of project progress and milestones; identification and trouble shooting of technical and organisational problems.

Achievements: This is an ongoing task using the tools and services implemented before (Project Server, MS Project, SCRUM).

1.2.3 – Timely production of deliverables.

Achievements: The Project Office of BHL-Europe ensures timely production of deliverables. In cooperation with the WP leaders, the members of the consortium were asked to fulfil their commitments according to the Description of Work.

1.2.4 – Quality control against the technical and contractual aspects; coordination with EDL Foundation Office.

Achievements: We have a strict internal reporting procedure in place. Partners have to report all their activities on a monthly basis and provide a narrative report of their activities on a quarterly basis. This way we ensure partners work as planned and we are able to identify potential problems as early as possible.

Task 1.3 – Quality assurance: Definition and communication of quality assurance procedures via project management portal, coordination of quality assurance process (internal as well as external review procedures for the various project results and deliverables).

Achievements: In the reporting period we revised and updated our quality assurance procedures to take recent developments into account⁶². We actively maintain a risk and issue register in Google docs to manage the risks and issues identified by the consortium. External reviewers are identified for most deliverables and will be consulted to review the deliverables of the project. Based on experiences with reviewers in the past it is obvious that reviewers provided with expense allowances produce reviews of higher quality and are more reliable than reviewers offering the reviews for free.

Task 1.4 – Business plan

⁶² https://bhl.wikispaces.com/BHLE_WP1

1.4.1 – Investigate services that help the sustainability of project results

Achievements: Sustainability is an important aspect for European aggregators of content. Therefore, the BHL-Europe PCO is working with the Europeana Group of Projects and the Council of Content Providers and Aggregators in investigating services and models to help the sustainability of aggregators. Furthermore, we are currently investigating e-learning and collaborative services making use of the BHL-Europe content to further help the sustainability of project results.

1.4.2 – Identify related networks or organisations interested in the implementation of project results

Achievements: BHL-Europe is in discussion with two new EU projects of the biodiversity domain to investigate areas of collaboration or options for implementing project results, i.e. NaturalEurope and OpenUp! The closer alignment of the Europeana Group of Projects since autumn 2010 will potentially result in new opportunities for the implementation of project results.

1.4.3 – Develop a business plan for long term sustainability with WP2 and WP3

Achievements: BHL-Europe has finished the “First overview of business plan for long-term sustainability” (D1.5).

Task 1.5 – Networking and clustering activities

1.5.1 – Coordinate with relevant partner networks; Identification of new important networks as potential disseminators of project results; Identification and analysis of stakeholders

Achievements: The most important partner networks for BHL-Europe are Europeana (data ingest), EDIT (ViTaL implementation; until February 2011), BHL (alignment of standards and technologies, content ingestion procedures), OpenUp! and Vifabio. In addition, the collaboration of BHL-Europe with the numerous projects of the Europeana group is now much better established.

1.5.2 – Contribute to the clustering activities of the EC.

Achievements: No cluster meetings of the EC were held.

Deviation from work plan & remedial action

No deviations from work plan.

Work package description

Work package number :	2	Start date:	M1	End date:	M36
Work package title:	Analysis of domain content and management of the content acquisition process				

Objectives for the period

IT objectives: Establish bibliographic database system, metadata repositories and Web-based content management system.

Management objectives: Ensure that all relevant biodiversity literature is listed to be scanned following a priority list; ensure that all content providers agree on the technical architecture of the project; ensure effective scanning in all content providing institutions; ensure linkage to EUROPEANA; ensure extension of the content providing network.

Description of work carried out and achievements

Task 2.1- IT Development

2.1.3 – Develop a Web database to support analysis of domain content and management of the scanning process based on 2.1.1 and 2.1.2

Achievements: The GRIB was developed in cooperation with EDIT and the VZG over the last months. The GRIB is now ready for the soft launch. The final GRIB deliverable is available now: D2.5 – “Final and enhanced Web-database for content management and collection analysis”. A helpdesk is in preparation to further support the data ingest and maintenance of the GRIB.

Tasks 2.2 – Analysis of domain content

2.2.2 – Use of the Web-database to identify the distribution of this relevant literature in the libraries of the content providers.

Achievements: Several partners are running individual processes to establish a list of relevant literature. The full details are given in the status section above. Currently, the BHL ScanList is still actively used to manage scanning activities and support the content analysis. Once the bulk of the library catalogues of our content providers are ingested into the GRIB, the BHL ScanList will be merged into the GRIB.

2.2.3 – Identify responsibilities for content contribution (which institution should provide the identified content after consideration of technical qualification, data standards, IPR).

Achievements: BHL-Europe has decided to prepare a collection development policy to find a consensus on the strategy for the extension of the corpus of digital biodiversity literature to be considered by BHL-Europe.

Task 2.3 – Management of the content acquisition process

2.3.1 – Identify content holder requirements

Achievements: Although BHL-Europe finished the work on the MoU in the 2nd reporting period, we now have revised the MoU to further prepare for the extension of the content provider network. The finalisation of this revised MoU depends on the finalisation of the Europeana Data Exchange Agreement.

2.3.2 – Assist partners in implementation and evaluation of scanning operations; control duplicate scanning of literature (using results of task 2.2); discussion and distribution

of data standards and specifications; work with individual donors and governments to facilitate the funding of the scanning; attracting new content providers.

Achievements: D2.6 – “Delivery of the first version of the approved best practice guidelines and standards” was finalised in the reporting period. This document gives standardised guidelines of the workflow from the book/journal either as print or digital version through to the downloadable item within the BHL-Europe portal.

The “BHL-Europe in a nutshell” document was finished in this reporting period and translated into four languages. This document is a very brief but informative document including the most important facts about BHL-Europe, benefits and IPR issues. First tests in using this document for acquiring new content and content providers for BHL-Europe were completed in the reporting period.

BHL-Europe was able to attract six new content providers in the last months.

2.3.3 – Coordinate with EUROPEANA, BHL and national scanning projects to ensure that material scanned by BHL-Europe is available through these portals.

Achievements: To date a corpus of 96,595 objects from 10 collections is available in Europeana from BHL-Europe and can be retrieved by using the following search string: *europaena_collectionName:087**.

Seven new collections were added recently and the three existing collections were updated.

2.3.4 – Addressing IPR issues in cooperation with WP4.

Achievements: The “BHL-Europe in a nutshell” document addresses IPR issues for prospective BHL-Europe content providers. This document was created in collaboration with WP4. WP4 also supported the revision of the MoU with regards to IPR issues.

2.3.5 – Take into account multicultural and multilingual aspects.

Achievements: The “BHL-Europe in a nutshell” document was translated into four languages already and more languages are planned to support the content acquisition in the various European countries.

The content in progress to be ingested into the BHL-Europe is reflecting the multicultural and multilingual nature of European natural history libraries (see the recent additions to Europeana for example).

Deviation from work plan & remedial action

No specific deviations from work plan in WP2, except the delay with GRIB data ingest (see section 3.4 below). For dependencies with WP3 see the description below.

Work package description

Work package number :	3	Start date:	M1	End date:	M36
Work package title:	Technological implementation				

Objectives for the period

Finalise the BHL-Europe metadata schema. Begin the implementation of the technical and functional architecture of the BHL-Europe system/Community Portal. Ensure that the User Requirements are defined and realised for the M28 Public Core Release and for the final BHL-Europe System. Post processing and ingest of content for Europeana. Finalisation of deliverable D3.7. Finalise data transfer from US to NHM.

Description of work carried out and achievements

Task 3.1 – Technological implementation (Overall Coordination)

3.1.1 – Management of the technical development team.

Achievements: In this reporting period the technical development team has mainly focused on the Implementation phase of the technical and functional architecture of the final BHL-Europe System/Community Portal. The Agile Software Development Methodology (SCRUM) is used for the distributed development work and hence the progress of WP3/WP2 development tasks is project managed through the Scrum Backlog which is divided into 12 Sprints. Each Sprint has a timeline of 2 months and we are currently in Sprint 6 of the Project Life Cycle.

Between January –March 2011, intensive technical meetings have taken place through various forums (conference calls, Skype & TMB meetings) to discuss ongoing development work within WP3/WP2.

3.1.3 – Definition of own standards for images, metadata, harvesting according to partner requirements (consensus-building).

Achievements: The BHL-Europe Schema has now been finalised and is now officially hosted on the BHL-Europe website in order to provide a solid and constant namespace for the schema.

3.1.4 – Liaise with scanning centres of the national initiatives for post-processing of content.

Achievements: A number of content providers have uploaded metadata and content to the NHM infrastructure for ingest into the BHL-Europe system. The post-processing starts with the mapping and continues with the Pre-Ingest of the content. So far UH-Viikki, BnF, RMCA, CSIC and RBGE have been mapped and are ready to be ingested. A QA process is in place to negotiate and verify the result of the mappings in collaboration with the content providers. The Pre-Ingest component following the mapping is a set of processing steps and processing systems which are orchestrated to facilitate data submission, data harmonisation and data enrichment. This also involves communication and feedback loops with content providers and developers. In the reporting period also the content of seven additional content providers was prepared for ingest in Europeana. Including the update of the existing content in Europeana, BHL-Europe now has ten collections online in Europeana since 3 May 2011. The post-processing of all the Europeana content again happened in collaboration with the

individual content providers.

3.1.5 – Development and adaptation of specific tools; implementation and adaptation of taxon finder and name recognition tools; improvement and implementation of OCR techniques.

Achievements: As the mapping of the content provider metadata revealed new requirements for the Schema Mapping Tool it was further adapted and enhanced. Several new functions such as direct conversions of the content provider metadata were added (in order to minimize the configuration effort required during pre-ingest). In addition the mapping tool was deployed to the productive systems in NHM London

We are currently in the Deployment phase of the Pre-Ingest Component.

Task 3.2 – Technical integration with EUROPEANA, BHL and national platforms

3.2.1 – Ensure that the standards for data management and image formats are consistent with international requirements and specifically the EUROPEANA and BHL, adoption of EUROPEANA Semantic Elements (ESE).

Achievements: Pentaho-based transformation jobs are being developed so that ESE Transformations can take place automatically on the server-side using Pentaho Kettle's "kitchen" environment.

3.2.2 – Develop a distributed data model that will allow countries to retain control of their data, while enabling the material to be available through EUROPEANA, the BHL Portal (with Taxonomic Intelligence tools), and any national portals.

Achievements: BHL-US Data was re-harvested and prepared for import to Europeana. To date a corpus of 96,595 objects from 10 collections is available in Europeana from BHL-Europe. Seven new collections were added recently and the three existing collections were updated. Animalbase's (UGOE) Oracle database was downloaded and a virtual machine was created with Oracle XE.

Task 3.3 – Addressing distributed access and storage – long-term sustainability:

Develop a distributed access and storage system to enable national and international storage of the scanned materials; to develop the storage system in such a way that long-term sustainability of the data is secured.

Achievements: The content upload is progressing; currently we have agreement to physically retrieve the data from the US. This will significantly speed up the process of data transfer and allow to progress to the next phase of Data Synchronisation over the WAN. WAN tests are ongoing and currently we have achieved a moderate data rate of approx. 2 GB per day. Through various configuration changes we hope to increase the throughput. Additionally, troubleshooting and remote debugging are ongoing.

Task 3.4 – Enabling BHL Portal access in European languages – interfaces, usability and mobility

3.4.1 – Work with the EUROPEANA to create multiple language access to the BHL Portal.

Achievements: OAI providers have been investigated for integration into BHL-Europe Portal. Initially the German prototype's OAI-Provider will be adapted and integrated into Drupal.

3.4.2 – Create a prototype portal in German to allow access to the BHL Portal.

Achievements: Deliverable 3.6 Release of the German Prototype (M18) was submitted to the EC in November 2010. A demonstration and presentation was given at the 2nd Intermediate Review meeting by WP3 Leader/AIT and also by AIT during the BHL-Europe Content Provider & Technical meeting which took place at NHM, London (30

Nov - 3 Dec 2010). The Prototype was created purely as a demonstrator to show that we can deliver the technology required for the final system. It also demonstrates our ingest and data harvest capabilities.

Finally, the German Prototype will be re-factorised and integrated into the community portal. Hence, future development will focus on other core features such as Taxonomic Intelligence Tools, OCR and Content Viewer.

- 3.4.3 – Apply the model to the key European languages (English, French, German, Italian, Portuguese, Spanish, Danish, Dutch, Czech, Hungarian, Polish, Swedish), enabling access to the BHL Portal throughout Europe.

Achievements: In this reporting period the description of the user requirements or ‘catalogue of user requirements’ was finalised (MfN, AIT). The user requirements were defined in more detail including a description, pre-conditions / requirements and a priority for development (based upon user survey, contribution from the consortium members, individual input). They were assigned to a feature category and the feature categories were grouped into four core features: search and retrieval, content viewer, indexing services and multilingual community portal. Furthermore, the user requirements were presented during the London meeting in December (which included the consortium members with taxonomic expertise) and based on the feedback provided additional requirements which have been formalised and prioritised. The development team have translated these requirements into deliverables within the Scrum Backlog to ensure that the priority 1 features are realised for the M28 public core release and for the final BHL-Europe system/community portal.

The portal internationalisation strategy was defined. Localisation will be achieved using the Drupal core translation package. Each internationalised version will be prepared using the localisation client: http://drupal.org/project/110n_client and localisation files will be committed to the shared repository.

Deviation from work plan & remedial action

WP3 is generally on track. A deviation arose due to the delay in the deployment of the Pre-Ingest modules. Evaluation of existing potential Pre-Ingest components determined that the available options were not best suited to the complex workflow needs. It was decided to develop a Pre-Ingest module suitable to manage the task, this development being slowed down by reaction to ongoing discussion and changes to defined Pre-Ingest needs⁶³. There is a strong dependency of WP2 from WP3 when it comes to the ingest of data and content into the BHL-Europe system and the technical advice for content providers.

Work package description

Work package number :	4	Start date:	M1	End date:	M24
Work package title:	Intellectual Property Rights				

Objectives for the period

- Ensure deliverables for WP4 meet the needs of the project.
- Ensure that BHL-Europe, EUROPEANA, and the BHL are using common approaches and common agreements, such that data can be exchanged between these partners without further Rights activity.
- Assist and facilitate rights clearance for content where rights belong to third parties.
- Development of IPR framework for long term sustainability and access to digital material.
- Keep abreast of legal developments that may help or hinder the ability of project partners to supply legal content to the project.

Description of work carried out and achievements

Task 4.1 – IPR Framework: Establish IPR working documents – including best practice guide, due diligence guide, pro-forma agreements, and process for formally agreeing rights management with rights holders; align the approach with EUROPEANA and BHL and maximise level of interoperability including Rights metadata exchange.

Achievements:

- WP4 leader attended Europeana working groups in The Hague on data sharing, Linked Open Data, and the continued development of their Data Provider and Data Aggregator agreements, (now Data Exchange Agreement).
- WP4 leader was invited to be part of the core legal group for Europeana which will involve the recommendation of the Data Exchange Agreement (DEA) to the Council of Content Providers and Aggregators.
- In the light of the changes to the Europeana DEA, WP4 leader has identified the risk of incompatibility between agreements and partners and legal advice was sought.

Task 4.2 – IPR Agreements with Data Providers: Complete formal IPR agreements with data providers identified in WP2; keep records of all agreements secure.

Achievements:

- WP4 leader contributed to discussions and content provision for the WP2 Best Practice Guide regarding rights clearance, metadata standards for rights information, licensing and Open Access terms of participation in the project for prospective content providers.
- WP4 leader has written a summary of the rights clearance activities of project partners (D4.2).
- WP2 has secured agreements with Gesellschaft für Biologische Systematik⁶⁴ (GfBS) and the Institute of Paleobiology of the Polish Academy of Science⁶⁵ for contribution

⁶⁴ www.gfbs-home.de

of the following titles: Acta Palaeontologica Polonica Vol. 1 - Vol. 55 (Institute of Paleobiology of the Polish Academy of Science), Organisms Diversity & Evolution Vol. 1 - Vol. 9 (GfBS)

- Seven project partners have persuaded their own institutions to provide content for which they own the copyright under Creative Commons licenses. This amount to approximately 185,650 pages of content.
- To date project partners have also secured permission with 12 third party rights holders to licence 21 titles under Creative Commons licences.

Task 4.3 – IPR Agreements on projects results and outcomes: Develop IPR framework for long-term sustainability and long-term access to the digitised content of BHL-Europe, and ensure that EUROPEANA and BHL have long-term access to the material and associated Rights.

Achievements:

- WP4 leader has provided background to protection of software in the European Union to WP3 and advice on suitable Open Source software licensing to help ensure software developed as part of the project is not locked into proprietary interests and can be further developed as required to support development of the BHL-Europe portal beyond the term of the project.
- WP4 leader has written the project's Intellectual Property Sustainability Framework (D4.3), articulating the formal strategies that the project has employed to help ensure content and metadata remain available through the BHL-Europe portal beyond the life of the project itself. This was reviewed by an external IPR expert and amended accordingly.

Deviation from work plan & remedial action

The project agreement with Europeana was not delivered in M9 as it is subject to development and finalisation of Europeana's Data Aggregator Agreement (now Data Exchange Agreement [DEA]). WP4 leader was in discussion with Europeana throughout the development of this document and is now a member of the Europeana core legal working group which will provide recommendation of the final agreement to the Europeana Council of Content Providers and Aggregators. Recent significant changes to the Europeana Data Exchange Agreement raise the possibility that the existing agreements between the BHL-Europe's legal representatives (MfN Berlin) and content providers do not grant sufficient rights or provide adequate indemnity to MfN in order for it to enter into the DEA with Europeana. Legal advice was sought in the UK on this issue.

Legal advice has also been sought in the UK regarding the suitability of the Memorandum of Understanding as a sufficient agreement between the BHL-US project and BHL-Europe.

Pending the legal advice, the evaluation of risk based on this advice and the decisions taken by the Project Management Group, specifically Henning Scholz (MfN) and Graham Higley (NHM), the agreements between BHL-Europe and Europeana and BHL-US are currently still in progress.

Although WP4 will be closed down with the end of M24 as planned, the WP4 leader will continue to advise BHL-Europe with questions related to IPR and also support the finalisation of the MoU and DEA revisions.

Work package description

Work package number :	5	Start date:	M1	End date:	M36
Work package title:	Dissemination, Exploitation and Evaluation				

Objectives for the period

Dissemination objective: Raise awareness, understanding and action of the project among the community and stakeholders in EU member states; ensure effective dissemination of project goals and results to the target users; ensure good communication within the European scientific community

Presentation and demonstration objective: Ensure dissemination of project results at conferences, public events and among the networks of the consortium members

Evaluation objective: Monitor the level of use of BHL; survey the users of the BHL Web Portal

Description of work carried out and achievements

Task 5.2 – Develop and establish Web environment

5.2.1 – Plan, design, publish, maintain, and update BHL-Europe Web site for internal and external communication with publication of all relevant results and links to partner networks.

Achievements: The BHL-Europe Web site was moved into a CMS (Drupal). This will also help to manage the available multilingual versions of the site. Many texts are now translated in eight languages.

Task 5.3 – Develop and prepare promotional materials and newsletters, press relations

5.3.1 – Develop, prepare, and update target group specific promotion kits (fact sheets, flyers, posters, presentations) and related printed matters (e.g. illustrated book on best practice guidelines and standards for the public).

Achievements: For conferences, we prepared a number of target specific posters throughout the reporting period. In cooperation with Europeana and the European Library, we prepared a concept for virtual exhibitions. A draft for the first virtual exhibition was finished at the end of the reporting period.

5.3.2 – Prepare a quarterly newsletter to be published online.

Achievements: Newsletter No. 7 is finished and published recently.

5.3.3 – Ensure proper press relations; maintain the press review; distribution of articles for various types of print and online media (journals, newspapers, blogs).

Achievements: We are actively working with our Web Site, Weblog, Facebook, NetVibes and Twitter to communicate project news. We are also actively in publishing about the BHL-Europe project in various media (see status report above).

Task 5.4 – Demonstration and awareness raising

5.4.2 – Maintain and update the database of conferences and public events relevant for BHL-Europe; identify consortium members to present the project at selected events.

Achievements: Currently the events are managed on the [BHLWiki](#)⁶⁶. All past and future conferences and public events relevant for BHL-Europe are also listed on the [BHL-Europe Web site](#)⁶⁷.

5.4.3 – Alignment of public awareness activities of related projects (e.g. EDIT).

Achievements: We aligned our public awareness activities with related projects. The Europeana Group of projects collaborate more closely since autumn 2010. Europeana disseminates BHL-Europe within the Europeana network (also at public events such as the Europeana Plenary) and Europeana is disseminated within the BHL-Europe network. Europeana maintains the information page for [BHL-Europe on the Europeana Group page](#)⁶⁸.

5.4.4 – Organise public events and talks.

Achievements: No BHL-Europe-specific public events and talks were organised so far - this activity will take place mainly in the last year of the project. However, BHL-Europe was actively involved in the preparation and realisation of the BioSystematics conference in February 2011. This was a public conference with several hundred participants.

5.4.5 – Represent BHL-Europe at conferences and special events (responsibilities depend on conference location and theme).

Achievements: We presented BHL-Europe in numerous conferences to the scientific public (see table of attended conferences below) using presentations, posters and flyers (see our [slide library](#)⁶⁹ and [posters](#)⁷⁰ on the Wiki). We also used these events for networking and promoting BHL-Europe in individual talks and discussions.

Task 5.5 – Plan and organise user evaluation activities

5.5.1 – Put in place Web-based evaluation tools to survey users (to determine target group of the users, country of the users, most interesting content, page views, etc.).

Achievements: As BHL-Europe has no portal to date, we monitor the usage of the BHL-Europe content through Europeana using the usage statistics of the BHL Portal as a proxy (see also section 3.4 below).

5.5.3 – Establishing user testing groups; evaluation of this group using interaction logging.

Achievements: We start with this task within the next weeks.

5.5.4 – Plan and prepare the two special evaluation periods during the project.

Achievements: The next user evaluation is planned for autumn 2011.

⁶⁶ <https://bhl.wikispaces.com/dissemination+of+project+by+partners>

⁶⁷ <http://www.bhl-europe.eu/en/events>

⁶⁸ <https://version1.europeana.eu/web/guest/details-bhl/>

⁶⁹ <https://bhl.wikispaces.com/BHL-Europe-slide-library>

⁷⁰ <https://bhl.wikispaces.com/BHL-Europe-posters>

Deviation from work plan & remedial action

We have made no progress with establishing external user testing groups. However, BHL-Europe team members are continuously working with our products and providing ongoing feedback. The user survey was another source of very valuable input and the results directly influence our development process. The next project meeting in June 2011 will have a specific workshop on planning this task for the next user evaluation in autumn in 2011.

3.3 Deliverables Status

Deliverables List

Deliverable No¹	Deliverable title	Delivery due date²	Actual date of delivery
D1.5	First overview of the business plan for long-term sustainability	M24	M25, May 11
D1.6	Progress report 4 including pre-financing request	M24	M25, May 11
D1.7	Annual report	M24	M25, May 11
D2.5	Final and enhanced Web-database for content management and collection analysis	M24	M25, May 11
D2.6	Delivery of the first version of the approved best practice guidelines and standards	M24	M25, May 11
D2.7	Content analysis and management status report 2 (metadata, page numbers, content providers)	M24	M25, May 11
D3.7	Key components documented for output of D3.5 e.g. BHL-Europe Portal, OCR demonstrators, distributed storage model, etc.	M24	M25, May 11
D4.2	Complete signed agreements with first group of rights holders to enable material to be used in the BHL Europeana, and established process for addition of further material.	M24	M25, May 11
D4.3	Deliver IPR framework to support long-term access and sustainability of the digitise material.	M24	M25, May 11

¹ Deliverable numbers in order of delivery dates: D1 – Dn. Deliverable numbers must indicate which workpackage they relate to, e.g. D2.1 for the first deliverable from workpackage 2).

² Month in which the deliverables will be available according to the DoW. Month 0 marking the start of the project, and all delivery dates being relative to this start date.

3.4 Performance Indicators

With the majority of our indicators, we are on track or have the processes in place to reach the required targets soon. As BHL-Europe is currently in the phase of testing the ingest procedure, a large amount of data and content is in various stages of processing. This can not be properly reflected in the indicators, but it is referred to in the latest content analysis status report (D2.7) for details. More details on each indicator are provided in the following table.

Indicators	Expected vs. Actual						
	Year 1 (exp.)	Year 1 (act.)	Year 1.5 (act.)	Year 2 (exp.)	Year 2 (act.)	Year 3 (exp.)	Year 3 (act.)
Number of total accessible pages of biodiversity literature (in million)	17	17.4	35.3	21	40.19 ^a	25	
Number of pages of biodiversity literature from European content providers to BHL-Europe (in million)	3.4	3.4	3.5	4.1	4.19 ^b	4.8	
Percentage of literature available through Europeana	20%	0%	78%	50%	78.3% ^c	100%	
Amount of metadata sets to be imported into the GRIB (in million)	0.15	0.15	0.3	2.5	0.3 ^d	4.0	
Number of interconnected repositories	7	14	14	20	16 ^e	30	
Number of content providers	20	21	19	25	25 ^f	30	
Number of portal languages	1 ¹	1	2	7 ²	7 ^g	12 ³	
Page views through BHL Portal (in million)	1.0	3.7	4.1	2.0	4.7 ^h	2.5	
Page views through BHL-Europe Portal (in million)	0.0	0.0	0.0	0.5	0 ⁱ	2.5	
Page views through Europeana Portal (in million)	0.25	0	0.015	1.0	0.06 ^j	3.0	
Case studies of successful usage of the material by non-scientists	5	5	5	10	10 ^k	15	
Agreements with Rights Holders / Publishers	2	7	7	4	86 ^l	6	

¹ English; ² + French, German, Italian, Portuguese, Spanish; ³+ Danish, Dutch, Czech, Hungarian, Polish, Swedish

^a This number is based on the content we have on our servers and the commitments made by the content providers with the signature of the MoU. For more details refer to D2.7 - Content analysis and management status report 2 (metadata, page numbers, content providers).

^b This number is based on the content we have on our servers and the commitments made by the content providers with the signature of the MoU. For more details refer to D2.7 - Content analysis and management status report 2 (metadata, page numbers, content providers).

^c The number of estimated total accessible pages of biodiversity literature (in million) at the end of the project is the 100% level. Thus we make 78.3% of 43.9 million pages available through Europeana. For more details refer to D2.7 - Content analysis and management status report 2 (metadata, page numbers, content providers).

^d This is the number of de-duplicated records in the GRIB from the library catalogues FUB-BGBM, MfN, NAT, NHM and BHL. The number is much lower than expected. The low quality of provided data caused difficulties during the de-duplication process and slowed down the ingest process. Library catalogues of 16 more providers are in progress to be ingested over the next weeks to increase the GRIB dataset. For more details refer to D2.7 - Content analysis and management status report 2 (metadata, page numbers, content providers).

^e This is the number of BHL-Europe content providers from whom we have harvested metadata into our prototype. As we are currently refactoring the prototype and testing the new Pre-Ingest component, we have not further increased the number of interconnected repositories at present. However, 3 additional content providers that are not harvested for the prototype have now successfully passed the mapping procedure (RMCA, NMP) or are in progress to be ingested in Europeana (UCPH). This shows that interconnection of repositories currently happens at different levels due to the implementation and development progress of the various system components. For more details refer to D2.7 - Content analysis and management status report 2 (metadata, page numbers, content providers).

^f BHL-Europe started with 17 content providing institutions in the original consortium: NMP, UGOE, LANDOE, HHNM, UCPH, NAT, NBGB, RMCA, RBINS, BnF, MNHN, CSIC, RBGE, BHL (NHM, SIL, MOBOT), UH-Viikki. Meanwhile, four additional consortium partners are content providers and four non BHL-Europe partners signed the Memorandum of Understanding to contribute to the digital corpus of BHL-Europe. For more details refer to D2.7 - Content analysis and management status report 2 (metadata, page numbers, content providers).

^g Seven languages are currently implemented in the development version of the portal: Czech, English, German, French, Italian, Portuguese, Spanish. Drupal's localization and internationalization modules are used to facilitate the translation of the portal. We have set up the technical mechanisms to facilitate the translation of more terms in more languages. For more details on the portal internationalisation refer to D3.7 - Key components documented for output of D3.5.

^h This number is for the BHL Portal www.biodiversitylibrary.org/ provided by Google Analytics and cover the period from 19 March 2010 to 18 April 2011. This number of page views corresponds to 399,676 absolute unique visitors in this period.

ⁱ As BHL-Europe has no fully functional portal except the prototype (which is not promoted to the public), we are not recording the usage. However, we are recording the usage of bhl-europe.eu since January 2011. 1,142 absolute unique visitors were recorded until the end of this period and 12,115 page views.

^j For the page views through Europeana, the Google Analytics of the BHL Portal www.biodiversitylibrary.org/ were evaluated. 44,998 page views of the BHL Portal between 19 March 2010 and 18 April 2011 were generated by Europeana users. These page views were generated by Europeana users following the link to BHL content (e.g. "View in original context"). In addition, the Europeana log files were evaluated as well to identify those users that have not clicked through to BHL. BHL-Europe objects in Europeana (from 3 BHL-Europe content providers, i.e. BHL, LANDOE, NAT) were accessed 17,482 times, in addition to those objects where users clicked through to the BHL Portal. Altogether, 62,480 page views were counted. This number is still very low compared to the expected number for that indicator. The search engine optimisation of Europeana is still in progress and this will hopefully also have an effect on BHL-Europe usage statistics. The successive launch of several virtual exhibitions of BHL-Europe in 2011 will also help to promote our content in Europeana and increase the usage of the objects. We are collaborating very intensively with Europeana to better understand the behaviour of Europeana user in order to better take this into account for our content policy and promotion activities.

^k In addition to the case studies presented last year⁷¹, these are the five case studies for year two:

⁷¹ <http://www.bhl-europe.eu/en/outcomes/case-studies>

- Case study number:** 0006
- Case study provider:** Tomas Garnett, Smithsonian Institution Libraries, garnett@si.edu.
- Case study title:** Ornithological illustrations
- Actor(s):** B. Shelvey, E.G. Voss, V. Hunt
- Location(s):** Louisiana State University
- Objective:** To study ornithological narrative paintings, in particular historical examples, in order to determine how these may be used by high school and college biology teachers to teach keyconcepts in ecology and aspects of the history and nature of science.
- Actions:** V. Hunt from LSU is using BHL to survey ornithological illustrations, like those published by Howard Jones, 1886, Illustrations of the nests and eggs of birds of Ohio.
-
- Case study number:** 0007
- Case study provider:** Jiří Kvaček, National Museum, jiri.kvacek@nm.cz
- Case study title:** Spices
- Actor(s):** Unknown
- Location(s):** Kralovice near Pilsen, Czech Republic
- Objective:** Search for illustrations of spice plants
- Actions:** Writer in international gastronomy published already several books on this topic. He was looking for old coloured illustrations of spice plants. He was surprised how many nice illustrations of good quality are available in BHL. (e.g. Kochler's medicine plants).
-
- Case study number:** 0008
- Case study provider:** Tomas Garnett, Smithsonian Institution Libraries, garnett@si.edu.
- Case study title:** Gardening literature
- Actor(s):** Unknown
- Location(s):** Denmark
- Objective:** Finding literature about gardening
- Actions:** A hobby gardener needs access to the journal *The Gardeners' Chronicle* for his gardening projects, which is not available in Denmark.
-
- Case study number:** 0009
- Case study provider:** Chris Freeland, Missouri Botanical Garden, Chris.Freeland@mobot.org
- Case study title:** Web site devoted to John Gerrard Keulemans
- Actor(s):** Unknown
- Location(s):** Unknown
- Objective:** Finding illustrations by John Gerrard Keulemans
- Actions:** A person interested in natural history studies use BHL literature to find illustrations and images to build a website devoted to the artist and illustrator John Gerrard Keulemans (<http://sites.google.com/site/mmslouis>).

Case study number: 0010

Case study provider: Tomas Garnett, Smithsonian Institution Libraries, garnettt@si.edu.

Case study title: *Opuntia* website

Actor(s): J.J. Shaw

Location(s): Unknown

Objective: Building a website on the plant genus *Opuntia* (prickly pear cacti) including links and illustrations from legacy literature on biodiversity (<http://www.opuntiads.com/>).

Actions: A retired person responsible for a website on the plant genus *Opuntia* (prickly pear cacti) is looking for illustrations. There is no way he could maintain such a site without access to literature from 100-200 years ago. BHL makes it possible for him to access this literature and continue his work in a meaningful manner.

¹ Nine of our consortium partner are rights holders. They also managed to negotiate with 75 third party rights holders to contribute to BHL-Europe. In addition, WP2 managed to attract two new content providers, who are also rights holders. For the full list of rights holders and titles refer to D4.2 - IPR Agreements with Data Providers.

4 Awareness and Dissemination

4.0 Overview of awareness and dissemination activities

The BHL-Europe Web site (Fig. 6) was updated. It is now transferred to a Content Management System, Drupal, which will make it easier for the Communication Working Group to update events, news and to add more European languages. The “Home page” and “About us page” are now available in eight different languages; English, German, Italian, Spanish, Slovakian, Russian, French and Czech. Furthermore, “[BHL-Europe in a nutshell](#)⁷²”, a BHL-Europe document used to attract new content providers, was uploaded and is now available in four different languages: English, Spanish French and Russian. The content of the menus ‘Intellectual Property Rights’, ‘Events’ and ‘Events Outlook’ have been updated. In addition BHL-Europe fact sheets and the Europeana press release are now available on the BHL-Europe Web site.

The BHL-Europe [Newsletter 5-6](#)⁷³ is available online in different resolutions. For the second year of the project the design for the Newsletter was changed from the zoological theme in the first year of the project into a botanical theme (Fig. 7). The BHL-Europe [Newsletter 7](#)⁷⁴ is now online. It will be distributed to the consortium, the interested public, related projects, etc., using the BHL-Europe Newsletter mailing list and the existing BHL-Europe social media streams, e.g. BHL-Europe Facebook page, BHL-Europe blog and BHL-Europe Netvibes.

A major achievement was the promotion of the BHL-Europe project using new and attractive promotion materials, e.g. conference bags (Fig. 8), bike jerseys (Fig. 9) the Christmas card (Fig. 10) and BHL-Europe folders (Fig. 11). This attracts not only new users but also the

⁷² <http://www.bhl-europe.eu/en/information-for-partners>

⁷³ <http://www.bhl-europe.eu/de/bhl-e-u-r-o-p-e-newsletter/bhl-europe-newsletters-5-6>

⁷⁴ <http://www.bhl-europe.eu/de/newsletter/neue/bhl-europe-newsletters-7>

general public and stakeholders. The conference bags proved to be particularly successful promotion material (see Biosystematics report below).



Figure 6 BHL-Europe Web site homepage in Russian.



Figure 7 New main motif for the Newsletter in project year 2.

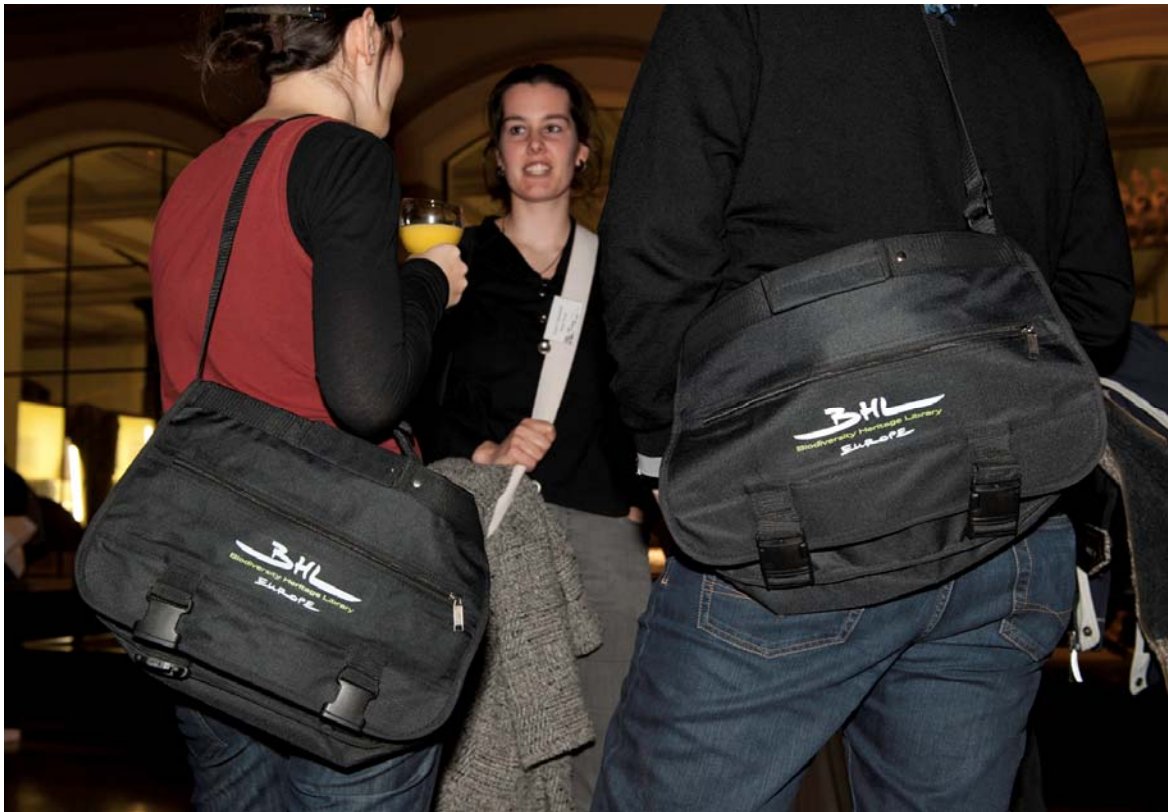


Figure 8 BHL-Europe's conference bags during the Icebreaker of the Biosystematics Berlin 2011.



Figure 9 BHL-Europe's bike jersey.



Figure 10 BHL-Europe Christmas Card.



Figure 11 BHL-Europe folder design.

News on BHL-Europe and related projects were spread using the now fully implemented social media streams BHL-Europe [Facebook](#)⁷⁵ (Fig. 12), [BHL-Europe Twitter](#)⁷⁶, [BHL-Europe blog](#)⁷⁷ and [BHL-Europe netvibes](#)⁷⁸. In addition there was a contribution about BHL-Europe in the [Guardian's Science weekly podcast](#)⁷⁹: “Why scientists love Germany” with Jana Hoffmann (MfN) explaining the project (between 4:10 and 4:55).



Figure 12 BHL-Europe's active Facebook page now widely accepted and used.

BHL-Europe activities were communicated throughout the Europeana network and Europeana and were promoted via the Europeana social media streams, like Facebook, Twitter and RSS. Furthermore the [information page for BHL-Europe](#)⁸⁰ on the Europeana Group page was updated on a regular basis. BHL-Europe was active in collaborating with Europeana and aligning dissemination activities. In Prague a press release for the Rhine

⁷⁵ <http://www.facebook.com/pages/BHL-Europe/151086001600041>

⁷⁶ <http://twitter.com/BHLEurope>

⁷⁷ <http://bhleurope.blogspot.com/>

⁷⁸ <http://www.netvibes.com/bhl-europe#Projects>

⁷⁹ <http://www.guardian.co.uk/science/blog/audio/2011/mar/14/science-weekly-podcast-germany-special>

⁸⁰ <http://version1.europeana.eu/web/guest/details-bhl/>

release of Europeana was prepared (in cooperation with Athena). BHL-Europe discussed concepts and ideas for BHL-Europe's new virtual exhibition BLE with Europeana, as Europeana has the expertise in setting up virtual exhibitions (see status section for WP5).

Europeana Twitter posts about BHL-Europe:

- [europeanaeu](#): BHL-Europe website now available in Russian. <http://www.bhl-europe.eu/ru> #europeana 28 days ago
- [davidhaskiya](#): RT @rdmpage: First thoughts on CiteBank and BHL-Europe. <http://ff.im/uQcAJ> 12/08/2010
- [europeanaeu](#): BHL-Europe Newsletter No. 5-6. <http://bit.ly/ebhl56> 12/24/2010
- [davidhaskiya](#): RT @chrisfreeland: The BHL-Europe prototype release is now available for review at <http://prototype.bhle.eu/> #bhlib 12/01/2010.
- [valentinec89](#): RT @chrisfreeland: The BHL-Europe prototype release is now available for review at <http://prototype.bhle.eu/> #bhlib 12/01/2010.
- [europeanaeu](#): RT @EuropeanaEU: check out BHL-Europe's Facebook page on <http://on.fb.me/fnnAyI> and they are also now on Twitter @BHLEurope #biodiversity #culture #heritage 12/28/2010.

The major dissemination event organised in this reporting period was the scientific conference [BioSystematics Berlin 2011](#)⁸¹ held in Berlin, Germany. BHL-Europe was officially represented by Jana Hoffmann (MfN) in the organising committee meetings.

In February 2011 hundreds of scientists gathered at the Seminaris Conference Center near the Botanic Garden and Botanical Museum Berlin-Dahlem for the BioSystematics conference where BHL-Europe played a major role as an organiser and sponsor (Fig. 13). BHL-Europe made a lasting impression on every participant by sponsoring the conference bags branded with the BHL-Europe logo, BHL-Europe flyers and the BHL-Europe's display stand right at the entrance of the conference centre.



Figure 13 BHL-Europe as partner on the BioSystematics Berlin 2011 homepage.

⁸¹ <http://www.biosyst-berlin-2011.de/>

Furthermore BHL-Europe organised a well-attended symposium on: “Worldwide Access to Biodiversity Literature: Digital and Virtual Libraries for Taxonomists” and a workshop on “Biodiversity Heritage Library: Hands-on training on search and retrieval of digital literature”.

Following a variety of interesting theoretical talks at the beginning of the BioSystematics conference, the BHL-Europe workshop provided practical hands-on training at the end of the conference. Henning Scholz (MfN, Germany) and Chris Freeland (MOBOT, US) introduced various sources of digital literature and discussed specific use cases for taxonomists in working with digital libraries, e.g. searching for species protologues (original species descriptions). This workshop can be considered as the starting point for a series of workshops during the final year of BHL-Europe. A more detailed report on this is available in the BHL-Europe Newsletter 7.

BHL-Europe was very active in approaching target users and stakeholders at various [conferences](#)⁸² (see List of Events and Meetings) and by [publications](#)⁸³ (see publications in status section):

BHL-Europe participated in the Kick-off meeting of the [OpenUp!](#)⁸⁴ project in March 2011 in Berlin, Germany; gave a presentation on the current status of the project and used this opportunity to meet a number of BHL-Europe partners also involved in OpenUp!

In March CSIC gave practical sessions on BHL-Europe during the third edition of „Master Internacional de Biodiversidad“ in Quito, Ecuador. Furthermore they represented BHL-Europe at the [XV. Reunion Científica para alumnos de Enseñanza Secundaria "BARCARROTA 2011"](#)⁸⁵ in Barcarrota, Spain. This conference brought together 300 school students (between 14 and 16 years old) and 100 teachers in Barcarrota (Badajoz, Spain) addressing topics related to biodiversity. During this meeting about 100 copies of the special didactic unit on biodiversity, [Unidad Didáctica Biodiversidad. El mosaico de la vida](#)⁸⁶ including information on BHL-Europe was given to the teachers.

RMCA and NBGB were present at the [3rd publishing meeting EDIT](#)⁸⁷ (Copenhagen, 6-7 October 2010), to present a speech on the cooperation between the Belgian partners, NBGB, RBINS and RMCA, for sharing human and material resources for the BHL-Europe project.

NBGB participated at the Linnaeus Link Union Catalogue (LLUC) partners meeting in Geneva (1-2 October 2010) and presented the BHL-Europe project to the attendees. One of the aims of the LLUC is to provide links to Linnaean digitised books, namely on BHL.

AIT gave a presentation about the BHL-Europe project at the Austrian European Local National event on 19 November at the University of Graz. This presentation was two-fold: preparation and compilation of promotion material in German for distribution and a short PowerPoint presentation given during a speech.

RBGE promoted BHL-Europe and BHL in general at the Annual Meeting of the Scottish section of the Botanical Society of the British Isles, held on 6 November 2010 via a poster.

⁸² <https://bhl.wikispaces.com/dissemination+of+project+by+partners>

⁸³ <http://www.bhl-europe.eu/en/outcomes/publications>

⁸⁴ <http://open-up.eu/>

⁸⁵ <http://www.meridies.info/reuniones/15barcarrota2011.html>

⁸⁶ http://www.fecyt.es/fecyt/detalle.do?elegidaSiguiente=&elegidaNivel3=;SalaPrensa;publicaciones;divulgacioncientifica&elegidaNivel2=;SalaPrensa;publicaciones&elegidaNivel1=;SalaPrensa&tc=publicaciones&id=UD_biodiversidad

⁸⁷ <http://www.e-taxonomy.eu/node/900>

UBER submitted an abstract for the event: “[Vernetzungstage](#)⁸⁸ 2011: Kooperationen & Mehrwertdienste für Repositorien in vernetzten Umgebungen” in Osnabrück.

Boris Jacob (RMCA) in collaboration with Constance Rinaldo and Bianca Crowley (SIL) prepared a joint BHL-Europe and Global BHL tutorial proposal “A global network: the Biodiversity Heritage Library“ and demo proposal “The Biodiversity Heritage Library Growing Globally: Sowing the Seeds in Europe and the US“ for the [International Conference on Theory and Practice of Digital Libraries 2011](#)⁸⁹ in September in Berlin, Germany.

BHL-Europe was invited to contribute to the next edition of the International Innovation Report. We prepared a three-page contribution in collaboration with ResearchMedia (RM). RM provided a set of interview questions that were answered by BHL-Europe. Based on further material provided to RM, an article was written. RM also did all the editing and design work based on material provided by the project. All partners will receive a digital copy and a hardcopy of the contribution for further distribution. BHL-Europe also has the full copyright to re-use the material for dissemination purposes.

UH-Viiki wrote an article on BHL-Europe which was published in Luonnon tutkija and was deposited in the institutional repository of the University of Helsinki (Helda). This article called *Monikielinen biodiversiteettikirjallisuusportaali* (Multilingual portal for biodiversity literature) is available through the university publication portal Tuhat.

NBGB wrote a contribution to introduce the BHL-Europe project in the journal "Natura Mosana" from which they acquired the rights to digitise the complete collection till now.

RBGE also provided an article about BHL-Europe and a call for new content providers was submitted to the Scottish Biodiversity Forum's newsletter "The Forum".

4.1 Events and meetings

List of Events & Meetings

Below is a list of meetings and workshops of members of the BHL-Europe team to discuss and work on various aspects of the project.

Name	Location	Start Date	End Date
Best Practice Guide Workshop	Linz, Austria	08-11-2011	09-11-2011
Content Provider and Technical meeting	London, UK	30-11-2010	03-12-2010
Technical Meeting	Alexandria, Egypt	24-01-2011	28-01-2011
Conference symposium, workshop & BHL-Europe side meetings at BioSystematics Berlin 2011	Berlin, Germany	21-02-2011	27-02-2011

⁸⁸ <http://www.dini.de/veranstaltungen/workshops/vernetzungstage-2011/>

⁸⁹ <http://www.tpd12011.org/>

Below is a list of conferences and events attended by members of the BHL-Europe team in order to disseminate the project to the various audiences or to collect important information for the progress of the project. We also include here activities from last October, as some activities were not included in the last progress report due to late reporting. Our side library⁹⁰ and presented BHL-Europe posters⁹¹ can be found on the BHL Wiki.

Partner	Title	Start date	End date	Location	Level of dissemination
NBGB	Linnaeus Link Union Catalogue (LLUC) partners meeting	1-10-2010	2-10-2010	Geneva, CH	talk and flyers
MfN	Deutsches Kulturerbe auf dem Weg in die Europeana	4-10-2010	5-10-2010	Berlin, Germany	talk
UBER	Open Access Tage	4-10-2010	5-10-2010	Göttingen, Germany	flyer
RBINS, RMCA	CETAF	5-10-2010	6-10-2010	Brussels, Belgium	talk
MfN	Jahrestagung der Paläontologischen Gesellschaft	5-10-2010	8-10-2010	Munich, Germany	poster
MfN, NBGB, RMCA	3rd meeting Scientific Publishing in Natural History Institutions	7-10-2010	8-10-2010	Copenhagen, Denmark	presentation and talk
RMCA	ISTC meeting (Information Sciences and Technology Committee)	7-10-2010	8-10-2010	Berlin, Germany	talk
RMCA	Council of Data Aggregators	13-10-2010	13-10-2010	Den Haag,, NL	talk
RMCA	Benelux Congress of zoology	22-10-2010	22-10-2010	Gent, Belgium	poster, presentation
MfN	11. Oracle Bibliotheken Summit	27-10-2010	28-10-2010	Weimar, Germany	talk
MfN	Internal meeting of workgroup electronic publishing at Humboldt-Universität zu Berlin	29-10-2010	29-10-2010	Berlin, Germany	talk
RMCA	Library Infrastructure projects	29-10-2010	29-10-2010	Brussels, Belgium	talk
MSN	ANMS Annual Meeting	17-11-2010	19-11-2010	Ferrara, Italy	talk
AIT	EuropeanaLocal Austria national conference 2010	19-11-2010	20-11-2010	Graz, Austria	part of talk, flyer, poster
RMCA	Sterna final meeting	23-11-2010	23-11-2010	Leiden, NL	talk
RBINS	Entomology in Belgium 2010	3-12-2010	3-12-2010	Brussels, Belgium	poster
RMCA	African-European Archives Colloquium	15-12-2010	17-12-2010	Tervuren, Belgium	presentation

⁹⁰ <https://bhl.wikispaces.com/BHL-Europe-slide-library>

⁹¹ <https://bhl.wikispaces.com/BHL-Europe-posters>

RMCA	Meeting of the eContentPlus Project Mimo	11-01-2011	13-01-2011	Tervuren, Belgium	external expert, demo of BHL-Europe
MfN, MNHN, RMCA	EDIT General Meeting 3 (Final Event)	17-01-2011	19-01-2011	Paris, France	flyer, talk, poster
MfN, NHM	Technical Meeting Bibliotheca Alexandrina	24-01-2011	27-01-2011	Alexandria, Egypt	talks and discussions
RBGE	Annual Staff Conference, RBGE	27-01-2011	27-01-2011	Edinburgh, UK	demonstration, poster
MfN & BGBM, MOBOT, NHM, RMCA, sp2000, VZG/ GRBIB	Biosystematics 2011 - 7th International Congress on Systematic and Evolutionary Biology (ICSEB VII) - 12th Annual Meeting of the Society of Biological Systematics (Gesellschaft für Biologische Systematik - GfBS) - 19th International Symposium "Biodiversity and Evolutionary Biology" of the German Botanical Society (Deutsche Botanische Gesellschaft - DBG)	21-02-2011	27-02-2011	Berlin, Germany	chair, co-chair BHL-Europe symposium, BHL-Europe workshop, talks, organising committee
CSIC	Master Internacional de Biodiversidad	March 2011		Quito, Ecuador	talk and practical demonstration
UBER	Vernetzungstage 2011: Wissen schafft Vernetzung: Kooperationen & Mehrwertdienste für Repositorien in vernetzten Umgebungen	3-03-2011	3-03-2011	Osnabrück, Germany	flyer and talk
RBGE	Biodiversity Science Group Annual Conference	4-03-2011	4-03-2011	Edinburgh, UK	poster, demonstration
MfN, Europeana, RMCA	OpenUp! Kick-off meeting	9-03-2011	11-03-2011	Berlin, Germany	presentation
CSIC	XV Reunión Científica Barcarrota 2011	17-03-2011	18-03-2011	Barcarrota, Spain	talk
NMP	4D4Life Third project meeting	27-03-2011	01-04-2011	Prague, Czech Republic	poster, flyers, networking
RMCA	CCPA Legal Working Group Meeting	7-04-2011	7-04-2011	The Hague, NL	discussion
RMCA	Drupal Government Days	8-04-2011	8-04-2011	Brussels, Belgium	discussion
LANDOE	CETAF	27-04-2011	28-04-2011	Linz, Austria	presentation

5 Conclusions

BHL-Europe is currently in a very dynamic phase. We have successfully revised and re-delivered the various deliverables as requested by the EC during the annual review in May 2010, and we have received a green light to continue our work. The first implementation work of the project is finished, and testing of these components and further implementation and development work are in progress. Our content providers have done a lot of work over the last year to prepare the content for the ingest process. Now the ingest process has started to align the work of the content providers with the system development work. We have put more effort into dissemination activities in order to communicate the outcomes to our target users and to prepare for the final roll-out of the project results. We have also intensified our collaboration with Europeana to ensure that content ingest, dissemination activities and strategic processes are aligned. There is much activity in Europe concerning the digitisation and preservation of our digital heritage, and Europeana is a very important player in this context. This is a very dynamic process and BHL-Europe is a central participant.

6 Appendices

The financial statements for the second year of the project (May 2010 to April 2011) are currently collected, checked and approved. They will be submitted with the pre-financing request in June 2011 separately.