



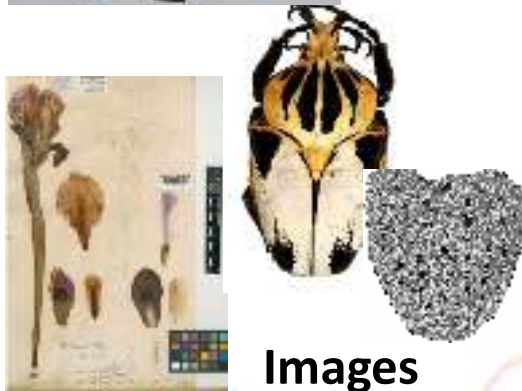
“Opening Up the Natural History Heritage for Europeana”

Dr. Petra Böttinger

Botanic Garden & Botanical Museum Berlin-Dahlem (BGBM), Germany

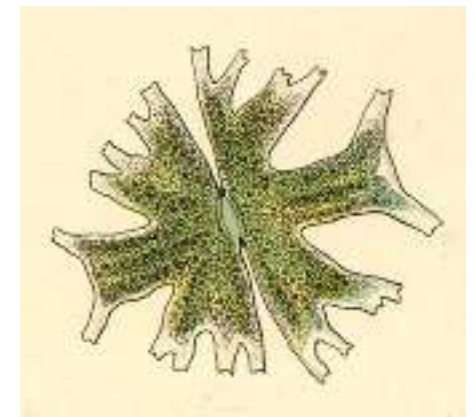


Multimedia objects from the Natural History domain are most certainly part of the European Cultural Heritage, but are dramatically underrepresented in public awareness.



Images

Sounds



Videos

Images : BGBM, MFN, NM, RBGK

***Connecting the cultural and the natural history domains is the central idea behind OpenUp!
("Opening up Europe's natural history heritage to EUROPEANA").***



Tapestry called „Krokus“, B. Rendahl, 1976. © Upplandsmuseet, Uppsala, Sweden. www.europeana.eu



Herbarium specimen *Crocus vernus* L., BGBM Collection, Berlin.

OpenUp! (03/2011-02/2014)

- An initiative of **CETAF** (Consortium of European Taxonomic Facilities) and several European **GBIF** Nodes.
- Implementing a **sustainable pipeline from natural history collections to Europeana** (and potentially to other portals using the Europeana standards).
- The connection is accomplished using well established **BioCASE** and **GBIF** technologies.
- Complemented with a system for
 - **data quality control,**
 - **data transformation,**
 - **and semantic enrichment,** including the common names of species in various languages



www.biocase.org



www.gbif.org

to support data providers publishing their data and the public browsing through Europeana.

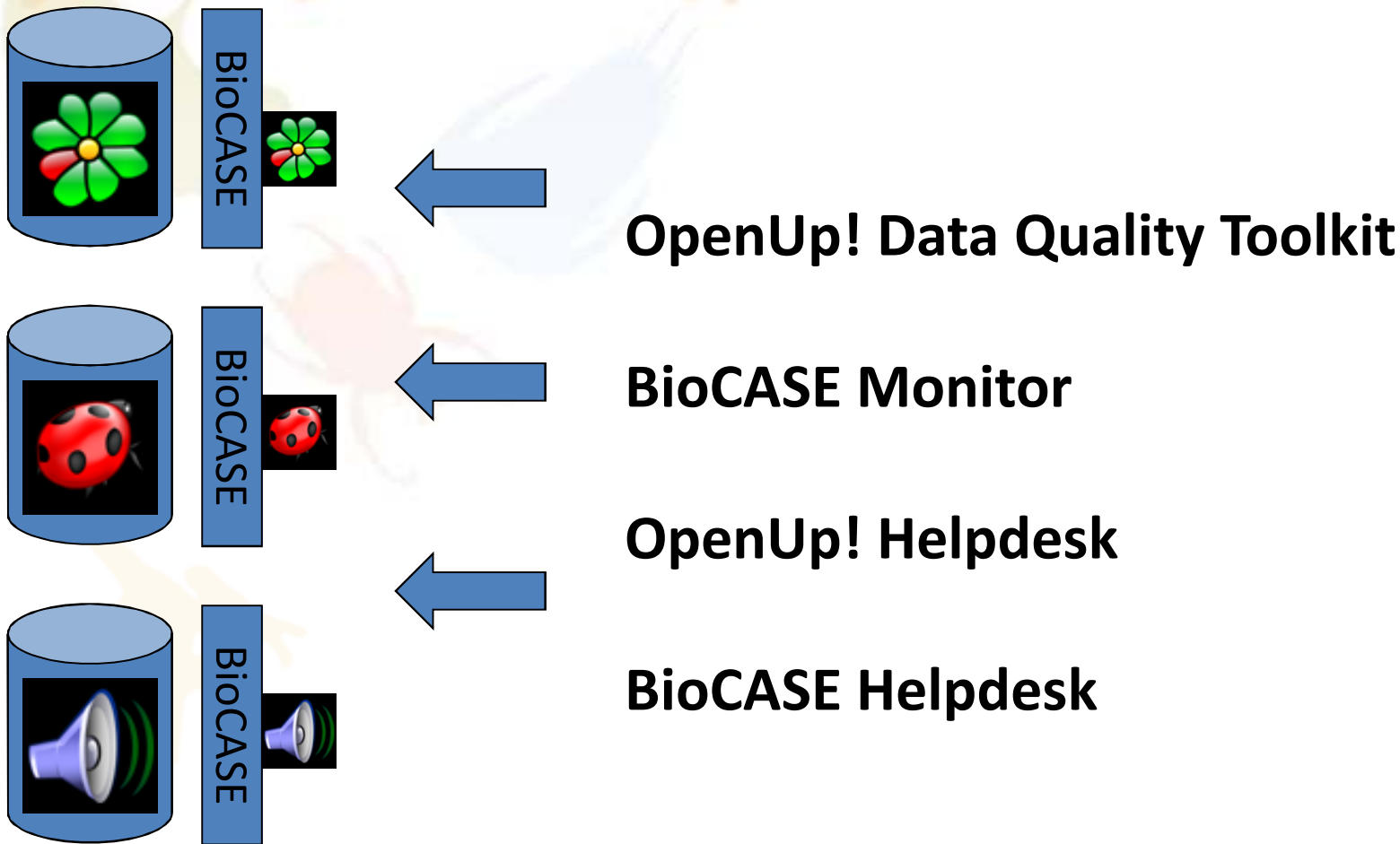
OPEN UP!

Opening Up the Natural History Heritage for Europeana

OpenUp! Consortium



Major achievement: the OpenUp! information flow



**Assistance to data providers
(275 PM for local data quality enhancements)**

Collection Data Quality Toolkit (DTQ main form)

Data Quality Toolkit, integrating a number of quality services including comprehensive scientific name catalogues for botany and zoology. It also validates information on taxonomy, geography, language, and type of multimedia.

The screenshot displays the DTQ main form with the following sections:

- Provider settings:** Includes a text input field for "Provider URL" and a dropdown menu for "Sync" currently set to "yes".
- Quality checks:** A list of checkboxes for various validation rules:
 - Collection date fields:
 - Site coordinates:
 - Syntax of email elements:
 - ISO country element:
 - Mime type for multimedia objects:
 - Multimedia object availability:
 - Number check for altitude:
- Filter:** Includes text input fields for "Scient. names" and "Ids", and a checked checkbox for "Multim. only".

<http://services.bgbm.org/DataQualityToolkit>

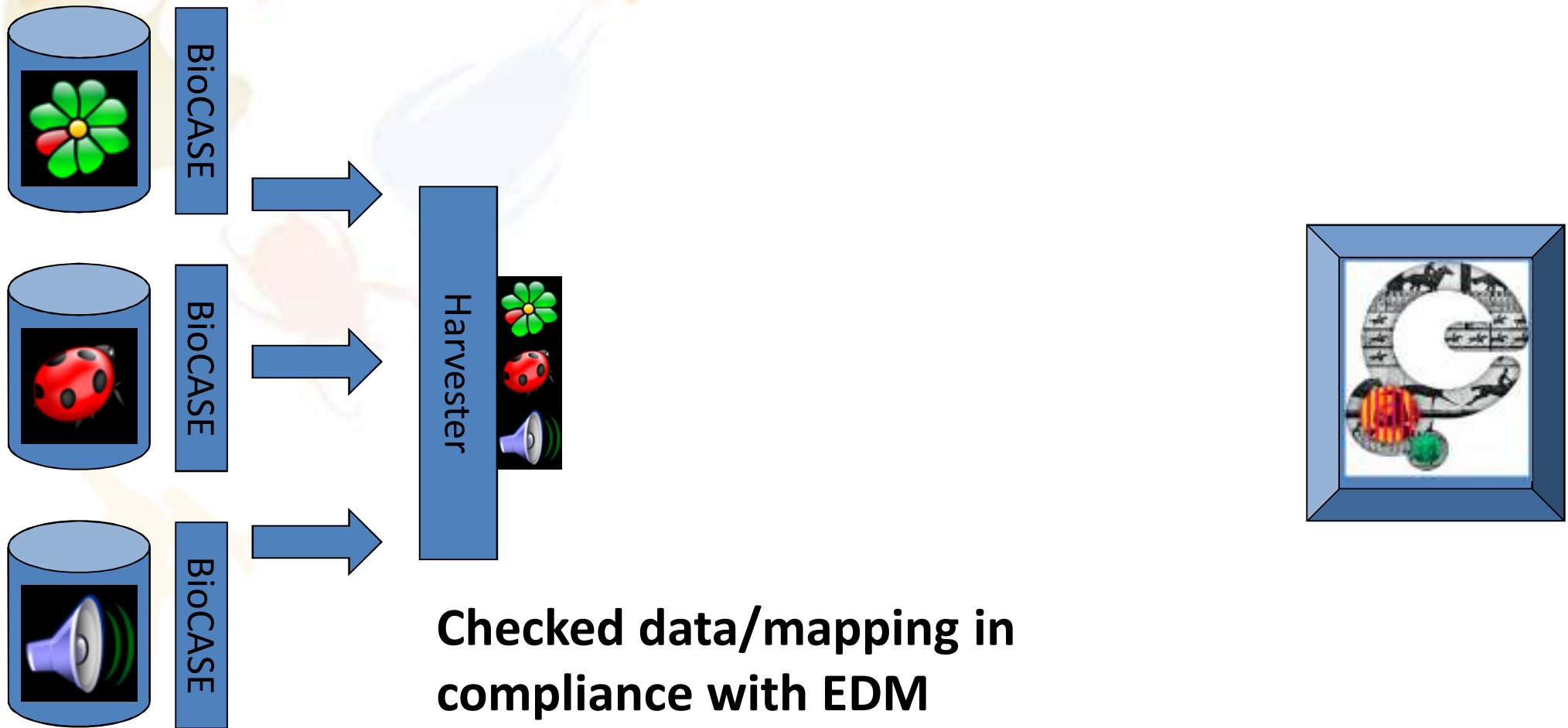
```

- <TaxonIdentified>
- <HigherTaxa>
  - <HigherTaxon>
    <HigherTaxonName>PINACEAE</HigherTaxonName>
    <HigherTaxonRank>familia</HigherTaxonRank>
  </HigherTaxon>
</HigherTaxa>
- <ScientificName>
- <FullScientificNameString>
  Abies apollinis Link
- <!--
  <Annotations>
    <Annotation>
      <Context>OpenUP</Context>
      <ISODateTime>2012-03-26T09:21:33.873Z</ISODateTime>
      <MethodOrAgent>Rev concept reconciliation service (Botanical data quality service - concept check)</MethodOrAgent>
      <Type>Warning</Type>
      <Message>The name is a synonym.</Message>
      <Suggestion>Abies cephalonica Loudon</Suggestion>
    </Annotation>
  </Annotations>
-->
</FullScientificNameString>
- <NameAtomised>
  - <Botanical>
    <GenusOrMonomial>Abies</GenusOrMonomial>
    <FirstEpithet>apollinis</FirstEpithet>
    <AuthorTeam>Link</AuthorTeam>
  </Botanical>
  <NameAtomised>
</ScientificName>

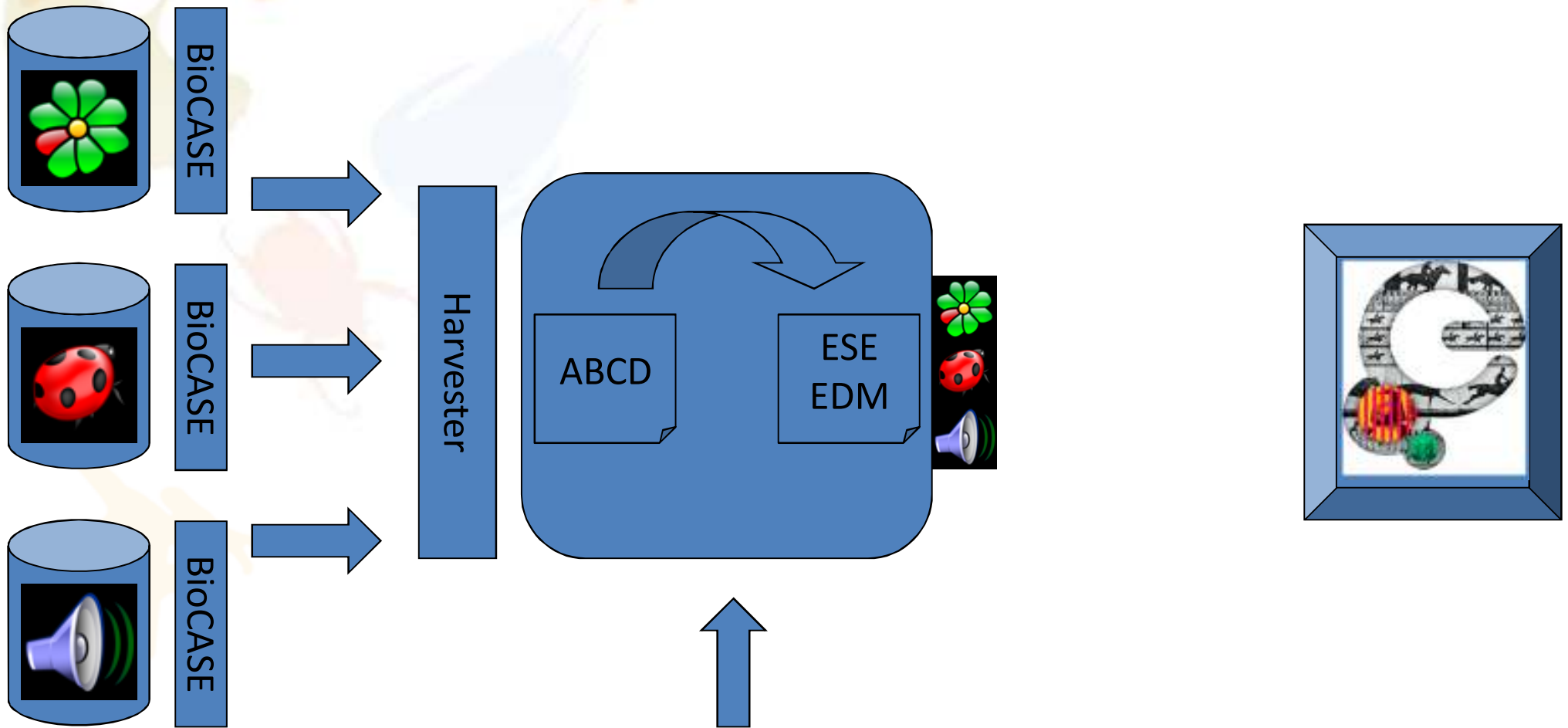
```

OpenUp! Data Quality Toolkit annotation indicating that an identification is using a name which is a synonym (according to a concept reconciliation service provided by Kew Gardens).

Major achievement: the OpenUp! information flow

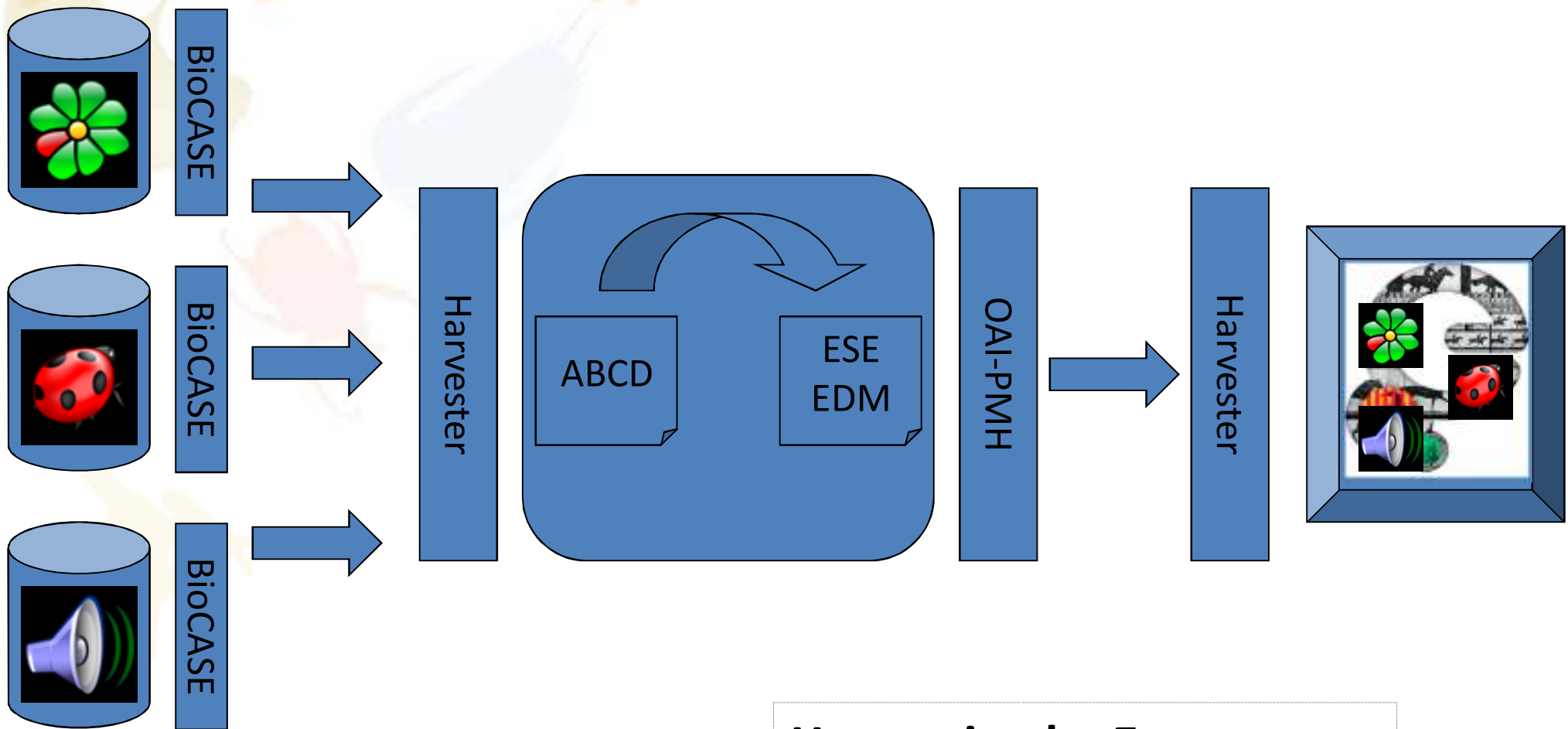


Major achievement: the OpenUp! information flow

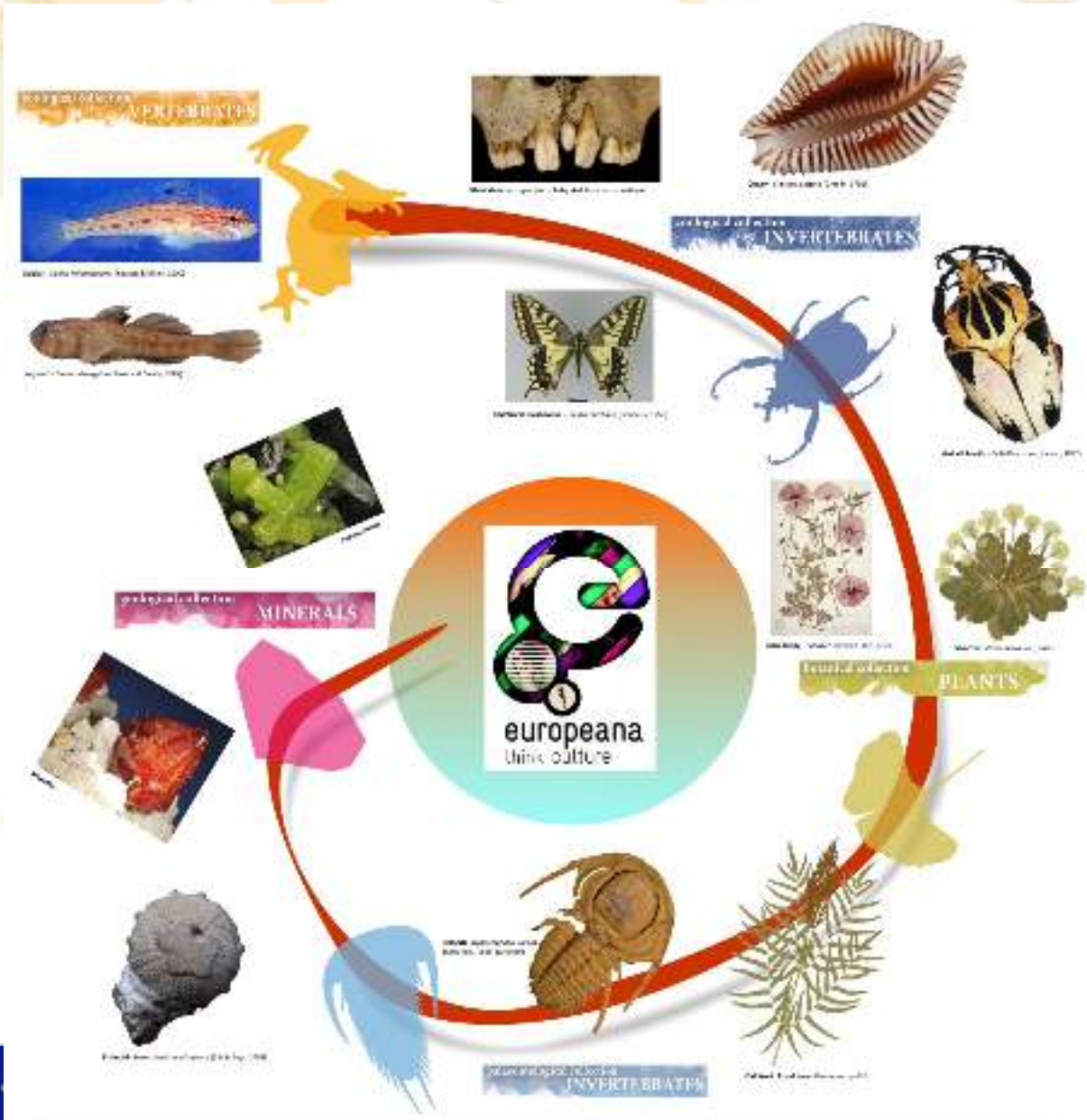


**Metadata enhancements
(e.g. common names, synonyms)**

Major achievement: the OpenUp! information flow



Harvesting by Europeana



March 2014

1,658,827

biological, paleontological,
and mineralogical objects
delivered to Europeana via
the OpenUp! Infrastructure



Opening Up the Natural History Heritage
for Europeana

OpenUp!

Content

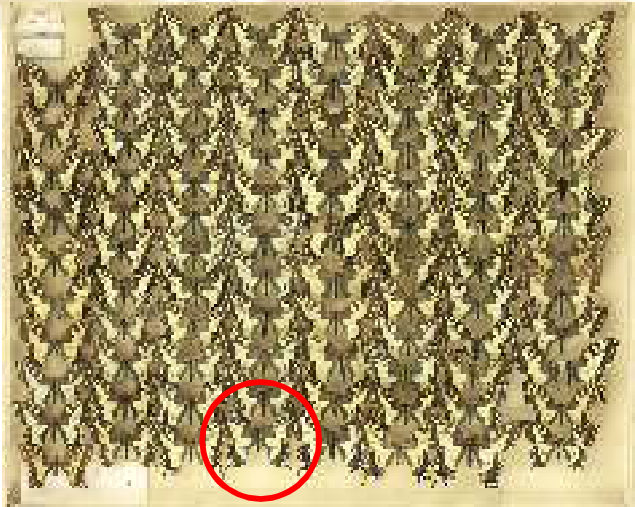
Story of butterfly specimen

Papilio machaon Linnaeus, 1758

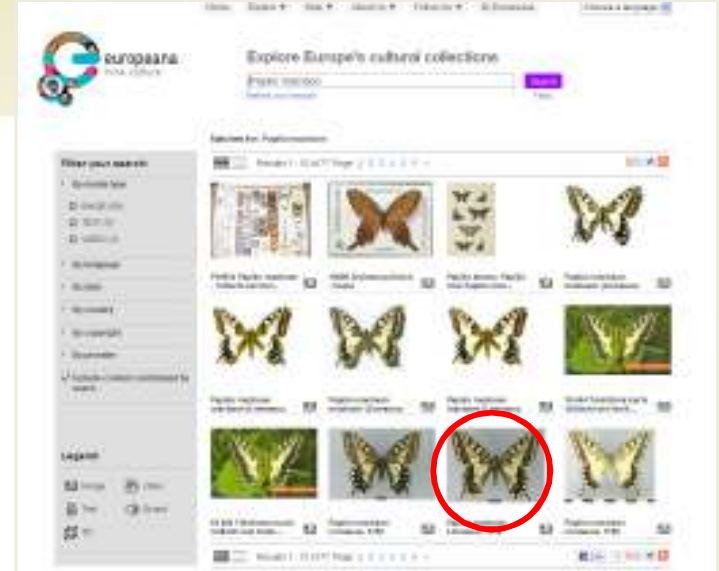
Old World Swallowtail



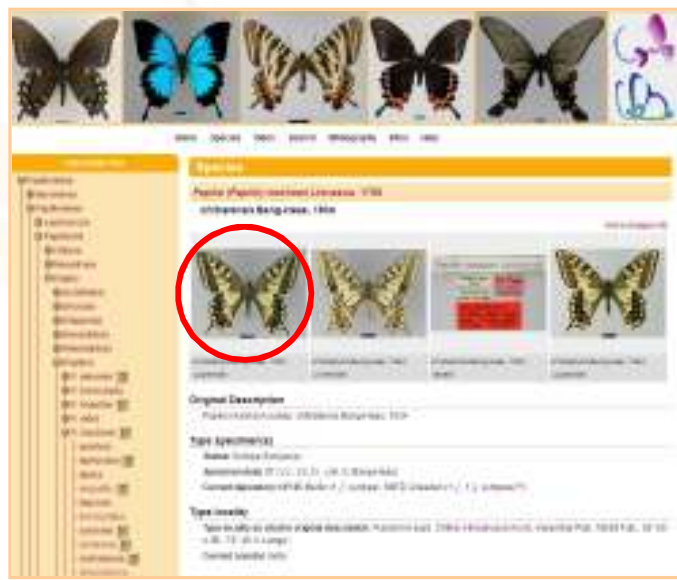
Digitalization and metadata creation



Publication of digital image and metadata on www.europeana.eu



Search for *Papilio machaon* in Europeana portal



Europeana links to



OpenUp! and IPR (*Intellectual Property Rights*)

- The **new Europeana Licensing Framework** came into effect on 10 September 2012.
- OpenUp! enables content providers to **restrict the amount of textual metadata** (the descriptive data of each multimedia object) **that must be provided to Europeana** under the terms of the **Creative Commons Zero Public Domain Dedication (CC0 waiver)**, i.e., free from any restrictions on re-use.
- In OpenUp!, **all other metadata** are provided under the terms of the Creative Commons **CC BY-SA** license (Attribution (BY,) ShareAlike (SA)).
- All other **content, such as previews, soundbits, and the content referenced by URI** (web addresses) in the metadata **do not fall under the CC0 waiver** and remain completely under the control of the content provider.



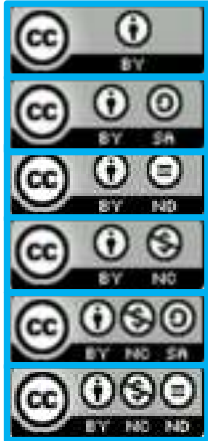
Europeana and IPR

Aulacopleura konincki (Barrande, 1846)
Contributor: Barrande, J. (author) (collaborator)
Time period: Wenlock (Series) ; Himerian (Stage) ; Silurian (System)
Geographic coverage: Czech Republic
Type: Fossil Specimen | ▶
Data provider: Národní muzeum | ▶
Provider: OpenUp! | ▶ Czech Republic | ▶

Explore further!
[Similar content]

View item at
[Národní muzeum](#)
Rights: Creative Commons (CC-by)
Identifier: Národní muzeum - NM - 3009953
Format: Mould Formation
Source: Paleontological collection of the National Museum | ▶

PUBLIC DOMAIN



Previews:
Creative Commons (CC) licences
(chosen by the data provider)

Metadata:
CC zero (public domain and free of restrictions)

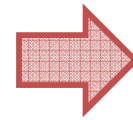
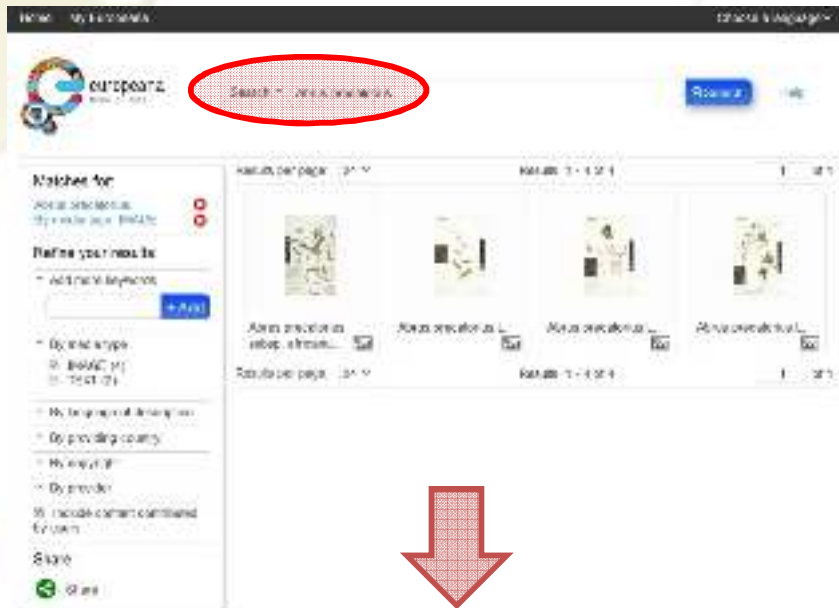


Opening Up the Natural History Heritage
for Europeana

OpenUp!

Benefits

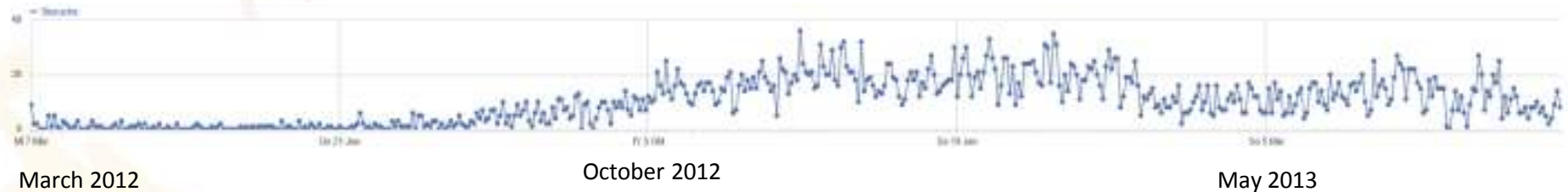
Referral from the Europeana site to BGBM Virtual Herbarium



Search example: *Abrus precatorius*

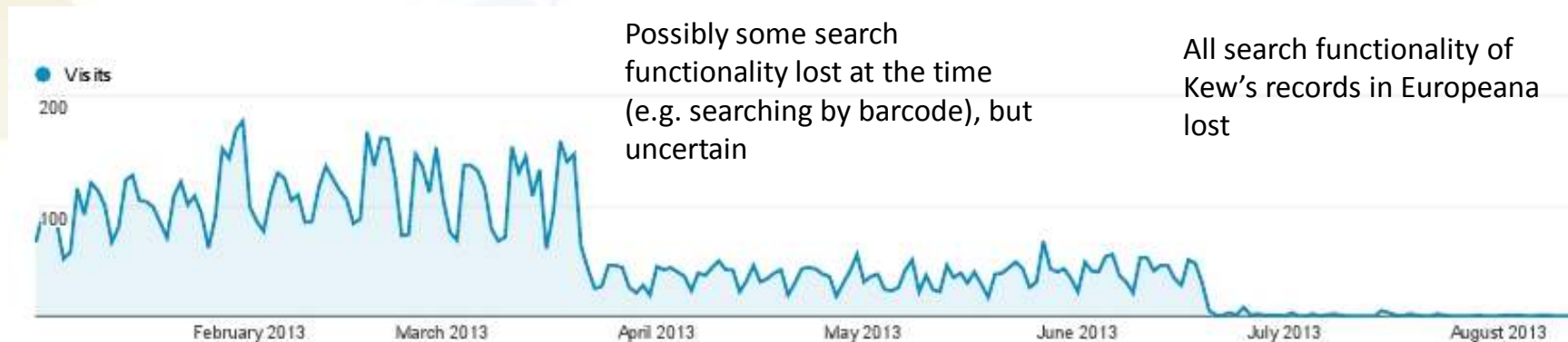


Web traffic to the digital Herbarium Berolinense via OpenUp!/Europeana



On average: max. 10% of all visits to the digital Herbarium Berolinense

Web traffic to Kew's online Herbarium Catalogue via OpenUp!/Europeana



Referrals from the Europeana site represented

- **28%** of all visits to Kew's Herbarium Catalogue in February 2013
- **24%** over the six-month period of 1 September 2012 to 28 February 2013

The overall number of visits to the Kew Herbarium Catalogue **increased by 62%** when comparing this six-month period to the same period in the previous year.

The number of new visits to the site **increased by 44%** when comparing the same periods.

OpenUp! – Architecture benefits

Efficiency

- All records and associated multimedia objects' references are combined **in one database**.
- One hosting infrastructure is installed for **different aggregation platforms**, e.g., GBIF and Europeana.
- **Costs and efforts for maintenance are low.**

Quality

- A **quality check of metadata** can be performed with the OpenUp! Collections **Data Quality Toolkit**, e.g., for dataset integrity and the correctness of scientific and common names as well as geo-references: <http://services.bgbm.org/DataQualityToolkit/>
- A **quality check of the ABCD mapping and compliance check with Europeana standards** can be performed with the **BioCASE Monitor Service**: <http://edit.africamuseum.be/biocasemonitor/>

Sustainability

- The **maintenance** of the OpenUp! infrastructure will be assured **after the end** of OpenUp!
- The **usage** of accepted **domain standards** for (meta)data exchange is **advanced**.
- The developed infrastructure is **reusable for other platforms** e.g. GeoCASE, BioCASE.

Ensuring Sustainability by Liaison activities

AnnoSys



Cetaf
Consortium
OF European
Taxonomic
Facilities



Where do I get more information?

At the **project website** (www.open-up.eu) and at the **OpenUp! Helpdesk**:

- tailored information for **new content providers**,
- Q&A dispatching system and a forum for **questions to be answered**,
- source for the **documentation on OpenUp!** technologies and workflows,
- access to an extensive **list of helpful documentations** from 3rd parties.

The screenshot shows the OpenUp! Helpdesk website. At the top, there is a navigation bar with links for FAQ, GuideBook v.1, Documentation, Get support here, Forums, and OpenUp! Project Website. Below this is a 'User login' section with fields for 'Username or e-mail' and 'Password', a 'Log in' button, and links for 'Log in using OpenID', 'Create new account', and 'Request new password'. To the right, the 'Helpdesk Facility of the OpenUp! project' section provides a welcome message and information about the project's goals and resources. Below this, there is a 'New Content Provider Information' section with a list of roles: Scientists, Collections Managers/Technicians, PR Department/Communication/Education, Legal Department/Legal Advisor, and Direction/Policy Makers. The page also features logos for Europeana, ICTPSP, and the European Union.

<http://helpdesk.open-up.be/>



Home > Abrus precatorius

Countless natural history treasures are deposited in museums across the world, many hidden away beyond easy access. The OpenUp! project creates a free access to these resources, offering over one million items belonging to the world's biodiversity heritage. The objects made available through OpenUp! consist of high quality images, videos and sounds, as well as natural history artworks and specimens, and also include many items previously inaccessible to visitors. Information provided through OpenUp! is checked by scientists and made available through the Europeana portal at www.europeana.eu.

OUTCOMES

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Abrus precatorius

View Revisions

botanical collection

PLANTS



This specimen is stored at Botanical Museum Berlin-Dahlem

Abrus precatorius

This specimen of *Abrus precatorius* subsp. *africanus* is a duplicate (isotype) to its holotype stored at the herbarium in Kew.

Did you know that...?

- *Abrus precatorius* is also called *Jequirity* or *Crab's eye*?
- *Abrus* leaves are consumed as vegetable in Central and East Africa?
- For their equal weight (~0.28g) *abrus* seeds were used for weighing gold and jewellery?
- The seeds contain strong toxin 'abrin' and one seed is enough to kill a human?
- The herb is widely distributed throughout Tropics, often being invasive?

<http://open-up.eu/>

OpenUp! –Data Exchange Standards

The domain specific standards are:

ABCD 2.06 (Access to Biological Collections Data)

<http://wiki.tdwg.org/ABCD>

Zoology & Botany

ABCDEF 1.0 (Access to Biological Collection Databases Extended for Geosciences)

<http://www.geocase.eu/efg>

Palaeontology & Mineralogy

These standards are transformed to the Europeana Semantic Elements (ESE) and the Europeana Data Model (EDM).

Thank you for your attention!



Lateral view of *Epimetopus mendeli* from Peru, which is currently under description as new for science in a collaborative paper by the scientists of National Museum in Prague and the Museum of Natural History in London.

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UP!

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www.open-up.eu

