Virtuelle Paläontologie

Virtualisation of literature research through the Biodiversity Heritage Library for Europe

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Literature research is the base for all scientific work in geology and palaeontology. Therefore, large and well-curated natural history libraries are a very important pre-requisite to carry out scientific projects efficiently. The library work, however, has several serious limitations that slow down the work significantly. The natural history library corpus is highly fragmented and scattered. In particular much of the early published literature is rare or is only available in a very few libraries. A lot of time and effort is involved to find and collect all scientific works that are necessary for a specific project. The virtualisation of literature research facilitates the search and retrieval of publications online and thus improves the efficiency of research. Several options ranging from virtual to digital libraries are realised by various projects and initiatives over the last years in order to support scientists in the natural history domain, including palaeontology.

Since 2009, the eContentplus project Biodiversity Heritage Library for Europe (BHL-Europe) is developing four different access routes to the biodiversity literature digitised by many European and global partners over the last years. With the Global References Index to Biodiversity (GRIB, http://grib.gbv.de/), BHL-Europe provided in collaboration with the EDIT project a union catalogue of library holdings of many European and US libraries. This will facilitate the search for literature, either digitised or not. This tool will also facilitate the management of digitisation projects all over world and collect scan request from the scientific community. For an effective access to already digitised literature, BHL-Europe is building a multilingual portal for the scientific community. This portal will also have functionalities to search for taxonomic names, for example. The backbone of this portal is a preservation and archive system built on a customised storage infrastructure housed by the Natural History Museum in London. We are currently collecting digitised literature from 27 different content providers on our servers, including all the content that is currently available through the BHL portal (http://www.biodiversitylibrary.org). We are also working on mirror solutions to mirror the European content to the global partners of the growing network of a Global BHL. Eventually, all the BHL-Europe will be available through the portals of the nodes in USA, China, Australia, Brazil, and Egypt. In order to serve also a broader audience, the digitised literature available by BHL-Europe is also accessible by Europeana, Europe's digital library, archive and museumEuropeana, the European digital library (http://www.europeana.eu/). Through Europeana, more content related to natural history topics is accessible as well, in particular non-literature items like images or paintings of collection objects.

In this talk I'm going to present the various options described above in more detail and highlight the functionalities of the virtual library solutions. As the BHL-Europe workshop during this conference is restricted to 20 participants only, this talk provide the opportunity for all attendees to get an overview of the BHL-Europe project and its achievements that are valuable for palaeontologists.

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Freies Thema

Bryozoan records from the Little Ice Age (North Sea Shelf)

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Until recently, bryozoans have not been used as indicators for changes in bottom communities or climate control in the North Sea Basin, despite a 300-year history of bryozoan collecting. In a previous study, the epizoobiontic bryozoan fauna of *Flustra foliacea* (Linnaeus, 1758) was analysed on 51 sample stations kept in four German museums. The samples cover the entire North Sea and different time periods (1776 – 2008, mainly the period of 1904/1905 compared to 1980 – 87). Cluster analysis shows a differentiation into a northern and a southern North Sea assemblage. The northern assemblage is characterized by *Amphiblestrum flemingii* (Busk, 1854), *Callopora dumerilii* (Audouin, 1826) and *Tricellaria ternata* (Ellis & Solander, 1786), while the southern North Sea is characterized by *Electra pilosa* (Linnaeus, 1767), *Crisia eburnea* (Linnaeus, 1758) and *Plagioecia patina* (Lamarck, 1816). Spatial separation approximately follows the 50 m depth contour. The temporal distribution patterns of bryozoans have been discussed in terms of NAO (North Atlantic Oscillation) and temperature variations.

The bryozoan record at the NHM dates back well into the Little Ice Age and extends the museum records in