DiSSCo Prepare: towards an European Infrastructure for Scientific Collections

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European Natural Sciences Collections (NSCs) consist of around 1,5 billion specimens that are crucial for answering fundamental scientific questions about ecological, evolutionary, and geological processes. In the last decades the volume and diversity of information derived from NSCs are exponentially increasing due to the digital transformation and the progressive use of analytical instrumentation, remote sensing and molecular approaches. A holistic approach is therefore required, where cross-linked information effectively underpins the entire research life cycle and provides open access to mass and precise data for researchers. The Distributed System of Scientific Collections (DiSSCo) is a world-class Research Infrastructure (RI) for NSCs currently in its preparatory phase. The DiSSCo RI aims to create a new organisational model for collections that digitally unifies all European natural sciences assets under common access, curation, policies and practices ensuring that all the data are easily Findable, Accessible, Interoperable and Reusable (FAIR principles). DiSSCo thus represents the largest ever formal agreement between natural history museums, botanic gardens and collection-holding universities in the world.

The digitisation of the NSC of the Natural History Museum (NHM) of the University of Florence – one of the largest and most diversified in Italy – is an ongoing, pioneering case study. The NHM of the University of Florence represents in fact the current Italian National Node of the DiSSCo Prepare Project and is playing a key role in establishing innovative relationships between its internal Collection Management System (CMS) and: i) ArCo, i.e., the Knowledge Graph of the Italian Cultural Heritage promoted by the Italian Central Institute for Catalogue and Documentation and the Italian National Research Council (CNR), ii) the General Catalogue of Italian Cultural Heritage web portal created by the ICCD (almost 3 M catalogue records) and, finally iii) the DiSSCo RI. In particular, ArCo ontology network, adopted by Agenzia per l'Italia Digitale (AgID), allows the representation on the semantic web of ICCD standards for natural heritage.