Species level information handling in the GBIF’s Integrated Publishing Toolkit (IPT) using Plinius Core extensions

Authors: Santiago Martínez de la Riva1, Cristina Villaverde1, Ana Cruz1, Katia Cezón1, Carmen Lujano1, Felipe Castilla1 and Francisco Pandol1
1 GBIF Spain – Real Jardín Botánico – CSIC, Plaza de Murillo 2, 28014 Madrid (SPAIN) – info@gbif.es
2 Real Jardín Botánico – CSIC, Plaza de Murillo 2, 28014 Madrid (SPAIN) – panid@jbr.csic.es

Plinius Core aims to be a standard for publishing and sharing species information (https://github.com/PliniusCore/Documentation). By “species information” we refer to all kinds of properties and traits related to taxa (at any rank), including descriptions, nomenclature, conservation status, management, natural history, etc. Plinius Core was designed as a hierarchical schema in order to integrate all this information in an easy way to use, self-contained and able to support data integration from multiple databases.

We present here a set of Plinius Core extensions (http://tools.gbif.org/dwc-validator/extensions.coe) already registered through GBIF (http://ipt.gbif.org/extension/) to be used in the Integrated Publishing Toolkit (IPT) (http://www.gbif.org/gpf, a tool to publish biodiversity information on the GBIF network (http://www.gbif.org)), so Plinius Core Terms can be embedded in Darwin Core Archives (https://en.wikipedia.org/wiki/Darwin_Core_Archive). The purpose of these extensions (still in test mode) is to enrich the core file information, providing a set of terms that define different attributes to integrate comprehensive information about species in a Darwin Core Archive.

Playing together

After reaching a stable version of Plinius Core in 2015, the next step was to create a group of extensions that would allow IPT users to share information about species in Plinius Core standard. In order to achieve this goal a group of extensions complementing the information in Taxon Core were created. The list of these extensions are Plinius Core Extension, Plinius Core Extension Distribution, Plinius Core Extension Management and Conservation, Plinius Core Extension Synonymy, Plinius Core Extension ThreatStatus and Plinius Core Extension Uses. All of these new extensions have their own fields with their definitions, cardinalities, controlled vocabularies and examples.

These extensions can of course be complemented by other extensions that already exist in the IPT such as Measurements Or Facts, Multimedia or References following the Darwin Core Archive standard.

Thanks to these new extensions of the IPT, the community would be able to register the information of their species in a more complete and flexible way.

Meanwhile an army of little moles are working hard under the ground.

Darwin Core Archive Components and Plinius Core Extensions

COMING DEVELOPMENTS PLINIUS CORE in ALA

Once the IPT supports the Plinius Core extensions, one of the next steps will be to get the community to not only share information in a standard format, but also be able to use the information accessible and interoperable. In order to reach this goal, we plan to use the Atlas of Living Australia (ALA) - an open source system that is being implemented as national data portal by many GBIF Nodes - to display species information in Plinius Core standard.

The ALA platform already provides a module to display and manage species information (https://github.com/AtlasLivingAustralia/AuralAlert). But in order to index the information of species pages in Plinius Core standard some customization of several ALA modules is required. This will give users the ability to see and download the data in their own ALA data portals too. Furthermore, thanks to this portal which is based on Web Services we will be able to provide interoperability. It will be possible to access to each field of a species profile in Plinius Core and work with this data in many scenarios.

Currently there are at least 20 countries around the world interested in using ALA technology in their national contexts. This means that this new development could benefit a big community that could share the species information in a new and more complete format.

Plinius Core Abstract Model (v2.2) - Current version (0.2.9) - https://github.com/PliniusCore/PliniusCoreAbstractModel/releases/download/v0.2.9/PliniusCore_AbstractModel_v2.2.1.xsd

CONCLUSIONS

It is already possible using the IPT in test mode to generate Darwin Core Archives with Plinius Core extensions. To get this functionality implemented in the IPT production mode some reviews are needed.

The interaction between Plinius Core with the IPT tool and ALA portal is essential to make this standard viable, accessible and broadly used within the whole community as Darwin Core or Oculus.

Having a look at IPT

Download Portal - https://ipt.gbif.org

www.gbif.org