M4.13—Release an API on the catalogue of resources

Milestone report for ViBRANT

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Connecting internet resource platforms, an application programming interface (API) standardizes the way programs can exchange information and data. At the present milestone we are defining an API specific to ViBRANT platforms how resources, especially ontologies, can be accessed and exchanged.

We conclude that Drupal and Semantic MediaWiki are able to exchange data using an API.

Work in the coming months:

- incomplete imports of ontologies from http://vocabularies.gbif.org need to be corrected on part of the Scratchpad sites (e.g. properly addressed description files)

API 1: Wiki to Scratchpad

On the part of the Wiki-system there exists a large API documentation[1] that enables programs and developers to obtain detailed data information, e.g. modified date or exchange data and even write data to the Wiki. It is documented on about 60 manual pages on http://www.mediawiki.org. This API provides various output formats, such as PHP (for programmers), XML (for data harvesting programs) or JSON (for interactive JavaScript programs). Additional to this core API, the extensions of Semantic Media Wiki[2] provide an additional export of data using the Resource Description Framework[3] (RDF). This approach enables a developer of ontology vocabulary to provide detailed information on terms defined in by a Wiki template system. On the Wiki species-id.net[4] this approach is undertaken for terms of ontologies. A customizable form for onotology terms helps the user to input correct data in a interactive way (e.g. auto completion of values in several data input fields, Figure 1)

[1] http://www.mediawiki.org/wiki/API:Main_page
[2] http://semantic-mediawiki.org
[3] http://www.w3.org/RDF
[4] http://species-id.net

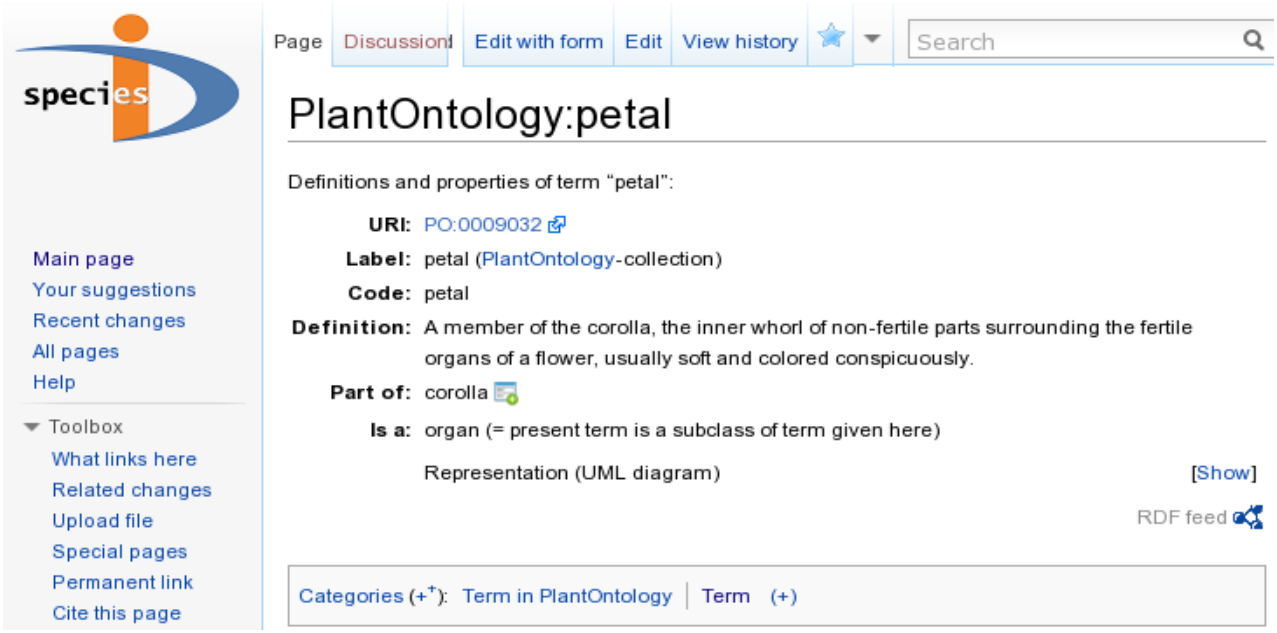

Figure 1: Wiki page defining the term "petal" for a plant ontology. RDF feed provides an API to the data.

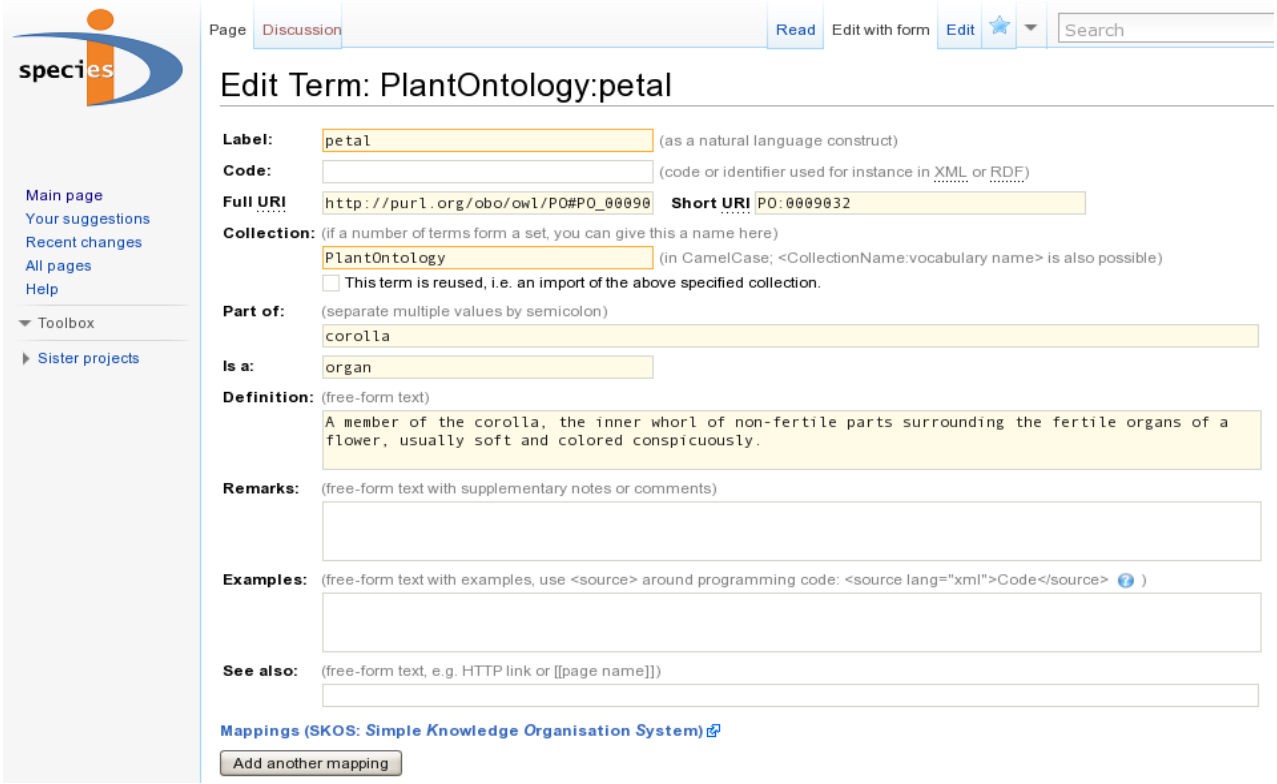

Figure 2: Edit term "petal" defined for an ontology collection of plants. Editing and inserting data is enhanced by auto completion of input values.

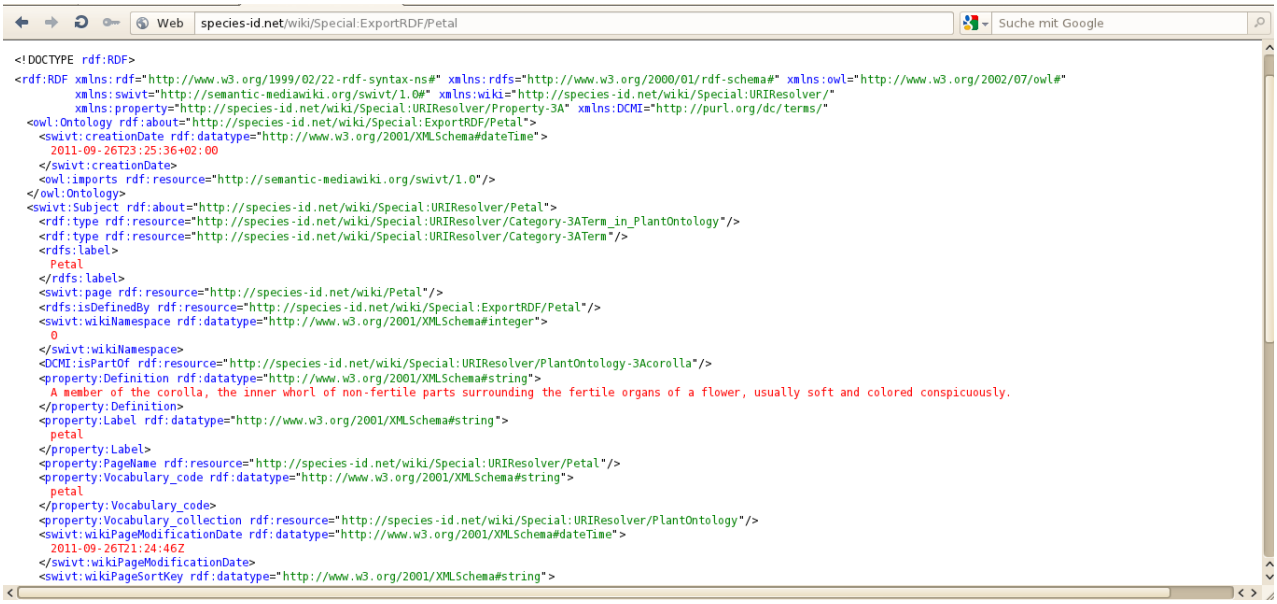

Figure 3: Screenshot of a RDF export (http://vocabularies.gbif.org) of the term "petal" showing defined properties by the Wiki template "Term".

API 2: Scratchpads to Wiki

Scratchpads are based on Drupal software and hence they can use it's API[5]. The data export format that is presently installed on Scratchpads is XML which can export semantically tagged publications of Scratchpad sites or export vocabulary definitions. One Scratchpad site that provides such vocabularies is GBIF vocabulary[6]. These vocabularies were imported into the species wiki for some of the GBIF-vocabulary-terms, e.g. taxon rank using XML export on part of the Scratchpads. At the moment the GBIF vocabulary on http://vocabularies.gbif.org is considered as a platform for testing purposes which means that some defined values are missing, e.g. descriptions.

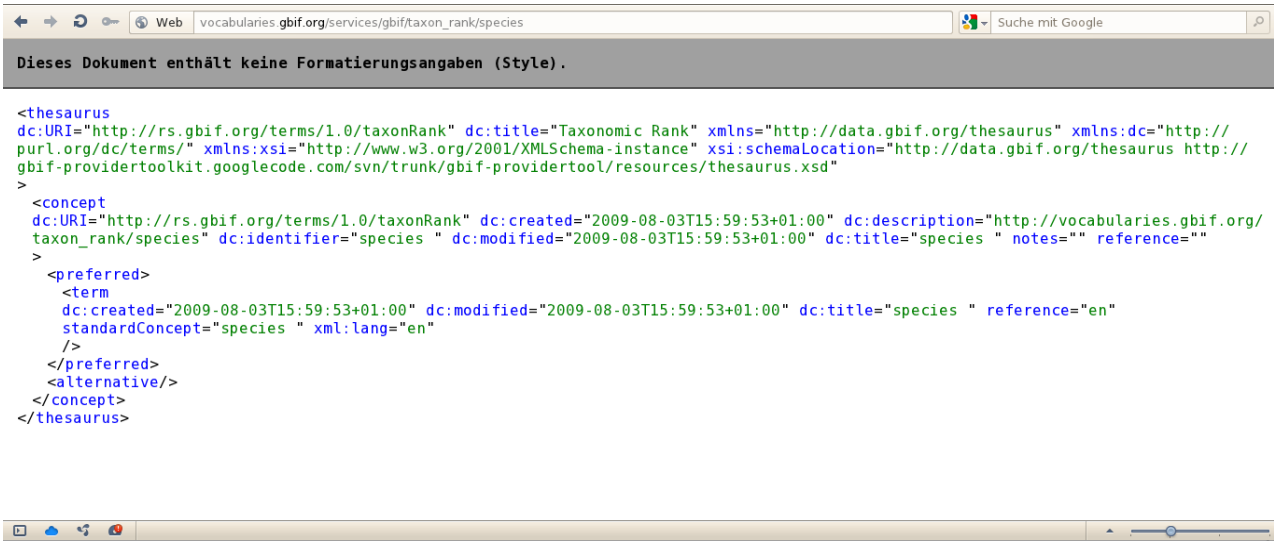

Figure 4: Screenshot of a RDF export (http://vocabularies.gbif.org) of the term "species" showing defined properties by the Wiki template "Term".

[5]http://drupal.org/project/views_data_export
[6]http://vocabularies.gbif.org/vocabularies

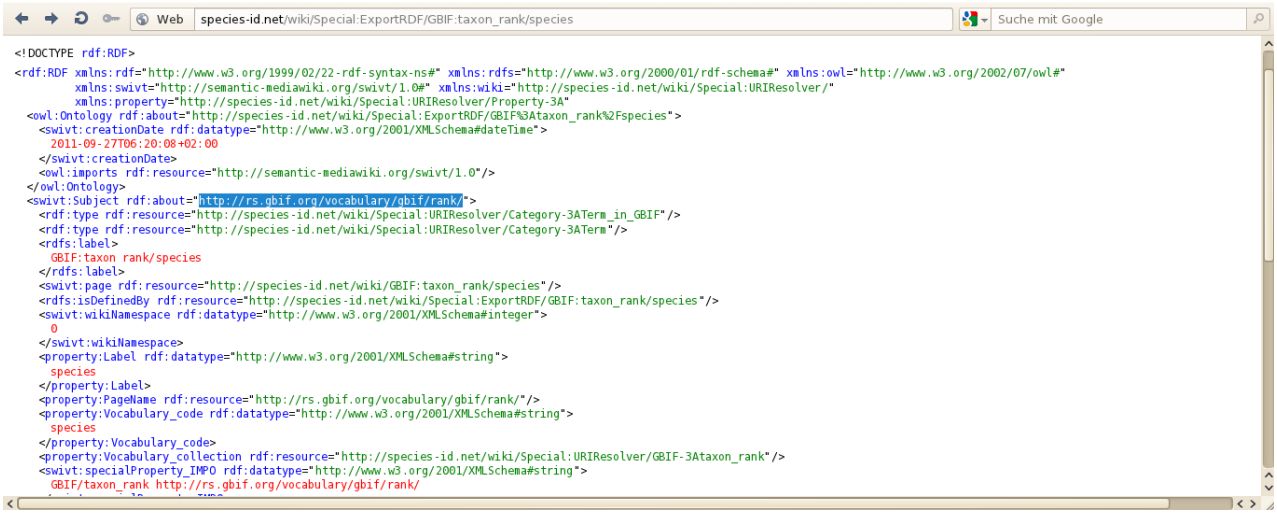

Figure 5: Screenshot of a RDF export (http://species-id.net/wiki) after importing the term from http://vocabularies.gbif.org. The marked line indicates that it is being imported.