



Milestone 6.20 – Beta version of XML queries to IPNI and ZooBank

Leading partner: Pensoft

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Explanation note

This document represents a format of XML export of metadata to the [International Plant Name Index \(IPNI\)](#) and [ZooBank](#), with the perspective to be used also by [Index Fungorum](#) and [MycoBank](#).

The registration approach proposed in the current report is and has already been tested in the editorial process of Pensoft's journals [ZooKeys](#), [PhytoKeys](#) and [MycoKeys](#). In our view, the registration of nomenclatural acts and the quality control of the bibliographic metadata in these registers should be a primary responsibility of publishers, and in lesser extend of authors or registry's agents. Moreover, publishers' role is becoming even more essential in the latest stage of the registration, namely checking and correcting the pre-publication registration details against the finally published information. We believe that registration of nomenclatural acts should be mandatory, no matter whether they are published on paper or in a digital format.

In the present model, the registration of taxonomic and nomenclatural acts could be done by three main groups: (1) authors, (2) registry agents, and (3) publishers (Figure 1), hence the workflow is based on a multiple-choice principle.

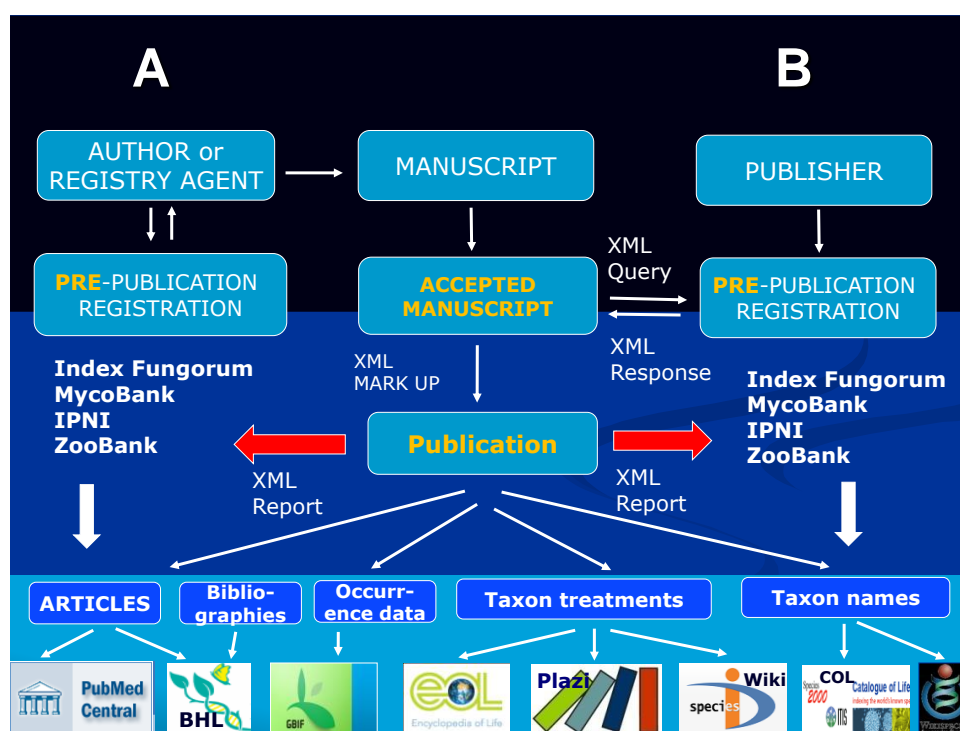


Figure 1. Two possible workflows for registration of taxonomic and nomenclatural acts, provided by the author or registry's agent (A) and by publisher (B). In both cases, the published information will automatically be amended in the registry through implementation of XML- or JSON-based server-to-server queries

In the case that a publisher takes the responsibility for the registration of taxonomic and nomenclatural acts in the above mentioned electronic registries, the workflow can be performed following a common model:

Step 1. Upon acceptance of the manuscript for publication, a publisher-based tool sends an XML query to the registry containing the type of act, the taxon names, and preliminary bibliographic metadata of the article (title, authors, journal) the act is to be published in

Step. 2. The registry server sends back an XML report containing the unique identifier (LSID) of the act; the LSIDs are embedded automatically within the respective taxon treatment

Step 3. After publication, the journal sends an automated XML report to the registry that contains the exact bibliographic details of the published article (authors, title, journal, issue no, date of publication, pagination) to be completed to the specific act.

The XML query process is based on, or is compatible to the [TaxPub](#) XML schema, an extension of the Document Type Definitions (DTD) of the National Library of Medicine (NLM) of the USA. TaxPub ensures the interoperability of the registered acts and their preservation in leading archives, such as PubMedCentral.

Format of the XML export for IPNI

– <ipni-query>

– <taxon-acts>

– <taxon-act ID="1" article_id="1" type="tax_nov">

 <taxon-rank>specific</taxon-rank>

– <taxon-parent>

 <kingdom>...</kingdom>

 <phylum>...</phylum>

 <class>...</class>

 <order>...</order>

 <family>...</family>

 </taxon-parent>

 <taxon-name>Genus_name species_name</taxon-name>

 <basionym-author />

 <publishing-author>Taxon-publishing-author-names</publishing-author>

 <hybrid type="no" />

– <type type="material">

– <material id="1" type="holotype">

- <!--

tagged material according to DarwinCore
-->

<CollectorNumber>...</CollectorNumber>

<AdditionalCollectors>...</AdditionalCollectors>

<institutionCode>...</institutionCode>

<collectionCode>...</collectionCode>

..

</material>

</type>

= <published-in>

<journal-name>PhytoKeys</journal-name>

<year>Year</year>

<title>Article_Title</title>

<issue>number</issue>

<taxon-page>number</taxon-page>

<start-page>number</start-page>

<end-page>number</end-page>

<publication-date>dd-mm-yyyy</publication-date>

</published-in>

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<basionym-author />

<publishing-author>Taxon-publishing-author-names</publishing-author>

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= <type type="name">

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<basionym-author>Taxon-basionym-author-names</basionym-author>

= <publication>

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<volume>number</volume>

<issue>number</issue>

<page>number</page>

</publication>

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<issue>number</issue>

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<end-page>number</end-page>

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<basionym-author>Taxon-basionym-author-names</basionym-author>

<publishing-author>Taxon-publishing-author-names</publishing-author>

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<basionym-author>Taxon-basionym-author-names</basionym-author>

= <publication>

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<year>Year</year>

<volume>number</volume>

<issue>number</issue>

<page>number</page>

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</basionym>

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<year>Year</year>

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<start-page>number</start-page>

<end-page>number</end-page>

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</published-in>

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<taxon-parent />

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<basionym-author>Taxon-basionym-author-names</basionym-author>

<publishing-author>Taxon-publishing-author-names</publishing-author>

<hybrid type="no" />

= <basionym rank="infraspecific">

<taxon-name>Genus_name species_name subspecies_name</taxon-name>

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<page>number</page>

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<basionym-author />

<publishing-author>Taxon-publishing-author-names</publishing-author>

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_ <publication>

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  <basionym-author />
  <publishing-author>Taxon-publishing-author-names</publishing-author>
  <hybrid type="no" />
_ <replaced-name rank="infraspecific">
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  <publishing-author>Taxon-publishing-author-names</publishing-author>
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  <issue>number</issue>
  <page>number</page>
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  <title>Article_Title</title>
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  <taxon-page>number</taxon-page>
  <start-page>number</start-page>
  <end-page>number</end-page>
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= <taxon-act ID="7" article_id="1" type="tax_nov">
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  <basionym-author />
  <publishing-author>Taxon-publishing-author-names</publishing-author>
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= <hybrid type="yes">
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= <parental-species id="1">
  <taxon-name>Genus_name species_name</taxon-name>
  <publishing-author>Taxon-publishing-author-names</publishing-author>
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= <publication>
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  <year>Year</year>
  <volume>number</volume>
  <issue>number</issue>
  <page>number</page>
  </publication>
  </parental-species>
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= <parental-species id="2">
  <taxon-name>Genus_name species_name</taxon-name>
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    <end-page>number</end-page>
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    <taxon-parent />
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    <hybrid type="no" />
_ <original-rank rank="infraspecific">
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<end-page>number</end-page>

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</published-in>

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</taxon-acts>

</ipni-query>

Format of the XML export for ZooBank

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= <zoobank-query>
= <authors>
= <author ID="1">
  <Prefix />
  <Given-Name>Given_Name</Given-Name>
  <Primary-Name />
  <Family-Name>Family_Name</Family-Name>
  <Suffix />
  <Name-Style>Western Style</Name-Style>
  </author>
= <author ID="2">
  <Prefix />
  <Given-Name>Given_Name</Given-Name>
  <Primary-Name />
  <Family-Name>Family_Name</Family-Name>
  <Suffix />
  <Name-Style>Western Style</Name-Style>
  </author>
</authors>
= <publications>
= <publication ID="1">
  <publication-type>Journal Article</publication-type>
  <journal-name>ZooKeys</journal-name>
= <authors>
= <author ID="1">
  <Given-Name>Given_Name</Given-Name>
  <Family-Name>Family_Name</Family-Name>
  </author>
= <author ID="2">
```

```
<Given-Name>Given_Name</Given-Name>
<Family-Name>Family_Name</Family-Name>
  </author>
  </authors>
<stated-year>Year</stated-year>
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<number>Number</number>
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<Language>English</Language>
<Figures />
<Date-Published />
<Identifiers>DOI number</Identifiers>
  </publication>
  </publications>
_ <taxon-acts>
_ <taxon-act ID="1" type="new_taxa">
_ <publication>
  <journal-name>ZooKeys</journal-name>
  <year>Year</year>
  <title>Article_Title</title>
  </publication>
  <taxon-Rank>Genus</taxon-Rank>
  <taxon-Parent />
  <taxon-Spelling>Genus_name</taxon-Spelling>
  <taxon-Authors>Taxon-authority-names</taxon-Authors>
  <taxon-Figs />
  </taxon-act>
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<taxon-Figs />

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_ <publication>

<journal-name>ZooKeys</journal-name>

<year>Year</year>

<title>Article_Title</title>

</publication>

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<taxon-Spelling>Subspecies_name</taxon-Spelling>

<taxon-Authors>Taxon-authority-names</taxon-Authors>

<taxon-Figs />

</taxon-act>

</taxon-acts>

</zoobank-query>