Demo for the Semantic Web Working Group

Preamble

This is an R Markdown Notebook. When you execute code within the notebook, the results appear beneath the code.

Try executing this chunk by clicking the *Run* button within the chunk or by placing your cursor inside it and pressing *Ctrl+Shift+Enter*.

Add a new chunk by clicking the *Insert Chunk* button on the toolbar or by pressing *Ctrl+Alt+I*.

When you save the notebook, an HTML file containing the code and output will be saved alongside it (click the *Preview* button or press *Ctrl+Shift+K* to preview the HTML file).

Generating RDF from marked-up text

We're using the `obkms` and the `rdf4jr` R libraries (not yet published). The `obkms` library deals with the creation of RDF, while the `rdf4jr` library deals with the communication with a GraphDB instance (our triplestore).

```
library(obkms)
library(rdf4jr)
```

Before we begin, we need to supply the access data. Access data can be read from a YAML configuration file. Note: the password is not stored in the configuration file. The user-password needs to be read from the environment variable `OBKMS_SECRET`. After we read the configuration we need to setup an environment where the functions are continuously going to look for the access credentials. We do this with the package `init_env` function.

```
configuration_file = "/home/viktor/Work/OBKMS/etc/config.yml"
server_access_options = yaml::yaml.load_file( configuration_file )
server_access_options$userpwd = Sys.getenv("OBKMS_SECRET")
init_env(server_access_options)
```

The `obkms` library has lots of functions:

```
?obkms
```

If you want to convert an XML file to RDF, you use the `xml2rdf` function. Currently, only the `TaxPub` XMl schema and Turtle serialization of RDF is supported.

```
example_taxpub = "/home/viktor/Work/OBKMS/Tests/BDJ373/10.3897_BDJ.4.e7713.xml"
turtle = xml2rdf( example_taxpub )
cat(turtle)
```

```
## @prefix skos: <http://www.w3.org/2004/02/skos/core#> .
##  @prefix pensoft: <http://id.pensoft.net/> .
##  @prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
##  @prefix foaf: <http://xmlns.com/foaf/0.1/> .
##  @prefix pro: <http://purl.org/spar/pro/> .
##  @prefix scoro: <http://purl.org/spar/scoro/> .
##  @prefix ti: <http://www.ontologydesignpatterns.org/cp/owl/timeinterval.owl#> .
##  @prefix tvc: <http://www.essepuntato.it/2012/04/tvc/> .
##  @prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
##  @prefix fabio: <http://purl.org/spar/fabio/> .
##  @prefix dcterms: <http://purl.org/dc/terms/> .
```

```
##  @prefix dc: <http://purl.org/dc/elements/1.1/> .
##  @prefix frbr: <http://purl.org/spar/frbr/> .
##  @prefix prism: <http://prismstandard.org/namespaces/basic/2.0> .
##  @prefix doco: <http://purl.org/spar/doco/> .
##  @prefix po: <http://www.essepuntato.it/2008/12/pattern#> .
##  @prefix co: <http://purl.org/co/> .
##  @prefix trt: <http://plazi.org/treatment#> .
##  @prefix c4o: <http://purl.org/spar/c4o/> .
##  @prefix dwciri: <http://rs.tdwg.org/dwc/iri/> .
##  @prefix nomen: <http://www.semanticweb.org/dmitriev/ontologies/2013/8/untitled-ontology-6#> .
##  @prefix dwc: <http://rs.tdwg.org/dwc/terms/> .
##  @prefix sro: <http://salt.semanticauthoring.org/ontologies/sro#> .
##  @prefix deo: <http://purl.org/spar/deo/> .
##  pensoft:cd71fd14-85d0-407c-8c7d-92adc2a3a787 {
##  pensoft:cb8e5e41-ba8a-4d48-9001-1df287a64d2d   rdf:type   foaf:Agent ;
##   skos:prefLabel   "Pensoft Publishers" ;
##   pro:holdsRoleInTime   pensoft:050bda19-3c4f-4c8e-b50e-8b31d26f9c0b .
##  pensoft:050bda19-3c4f-4c8e-b50e-8b31d26f9c0b   rdf:type   pro:RoleInTime ;
##   pro:relatesToDocument   pensoft:6239221b-0077-4811-8368-cd81ad83dcf2 .
##  pensoft:6239221b-0077-4811-8368-cd81ad83dcf2   rdf:type   fabio:Journal ;
##   skos:prefLabel   "Biodiversity Data Journal" ;
##   skos:altLabel   "BDJ" ;
##   fabio:issn   "1314-2836" ;
##   fabio:eIssn   "1314-2828" ;
##   dcterms:publisher   "Pensoft Publishers" ;
##   frbr:hasPart   pensoft:2a50d908-194e-4ce7-876c-2c2e2f61ae90 .
##  pensoft:2a50d908-194e-4ce7-876c-2c2e2f61ae90   rdf:type   fabio:JournalArticle ;
##   skos:prefLabel   "10.3897/BDJ.4.e7713" ;
##   prism:doi   "10.3897/BDJ.4.e7713" ;
##   fabio:hasPublicationYear   "2016"^^xsd:gYear ;
##   dcterms:title   "Two new species of Eretmocerus Haldeman (Hymenoptera: Aphelinidae) parasitizing Al
##   po:contains   pensoft:c8e4be49-9802-4516-97b6-bb1abebe3fce , pensoft:62fcdcad-3783-4631-94e1-5a9f4f
##  pensoft:c8e4be49-9802-4516-97b6-bb1abebe3fce   rdf:type   doco:FrontMatter ;
##   po:contains   pensoft:36d80d3c-e14b-470d-b4b6-9b17548abc25 , pensoft:b7d02d2d-8ee0-4808-82a7-921c2f
##   co:firstItem    [     co:itemContent   pensoft:36d80d3c-e14b-470d-b4b6-9b17548abc25 ;
##   co:nextItem    [     co:itemContent   pensoft:c8e4be49-9802-4516-97b6-bb1abebe3fce  ]   ]  ;
##   frbr:realizationOf   pensoft:021577a4-c747-4b91-a8a3-eab4e8c972f2 , pensoft:57e827bc-1dd6-418d-8cc
##  pensoft:36d80d3c-e14b-470d-b4b6-9b17548abc25   rdf:type   doco:title ;
##   c4o:hasContent   "Two new species of Eretmocerus Haldeman (Hymenoptera: Aphelinidae) parasitizing A
##   frbr:realizationOf   pensoft:a5ef08eb-71ed-446e-8183-639ab01f062b , pensoft:cb18058f-ef88-4509-874
##  pensoft:b7d02d2d-8ee0-4808-82a7-921c2f80be90   rdf:type   sro:Abstract ;
##   frbr:realizationOf   pensoft:e2d92237-5d8c-4394-81ef-929a4956aa31 , pensoft:ab334337-659b-43cd-888
##  pensoft:62fcdcad-3783-4631-94e1-5a9f4f5d13d7   rdf:type   doco:BodyMatter ;
##   frbr:realizationOf   pensoft:642d22ed-18a8-409b-8747-3302f1246966 , pensoft:dafc5863-a929-4f22-ac47
##   po:contains   pensoft:de3b18cf-cef2-4157-b702-7691c758dd6a , pensoft:53ad7d86-e15f-4ee8-9614-0d8e0
##  pensoft:67cb8b17-0812-4a23-8407-b38cada201eb   rdf:type   doco:BackMatter ;
##   po:contains   pensoft:a2320008-99d4-496b-8efd-40732dd98e8d , pensoft:F2536084 , pensoft:F2537272 ,
##   frbr:realizationOf   pensoft:72773553-9aa6-467c-abba-6e3ca1d4d9e1 , pensoft:79d73572-7c27-4f0c-869
##  pensoft:a2320008-99d4-496b-8efd-40732dd98e8d   rdf:type   doco:Afterword .
##  pensoft:F2536084   rdf:type   doco:Figure ;
##   po:contains   pensoft:2b123794-1398-47a7-8f26-7fc289d1c8db ;
##   frbr:realizationOf   pensoft:0b7b96dd-557b-42eb-967c-8323b591beb0 .
##  pensoft:F2537272   rdf:type   doco:Figure ;
##   po:contains   pensoft:9b658586-8d98-434c-acdc-fc2acb8f939b ;
```

```
##   frbr:realizationOf   pensoft:7f72220c-c2ec-402f-bdb9-2d2a1a7e73f2 .
##  pensoft:F2537278   rdf:type   doco:Figure ;
##   po:contains   pensoft:3778351a-7688-424e-bfe0-0f2bc99093d8 ;
##   frbr:realizationOf   pensoft:0feb564f-e87d-4ef9-8cf0-78eeb6307674 .
##  pensoft:F2537280   rdf:type   doco:Figure ;
##   po:contains   pensoft:b9e78752-e9d0-4d99-a7df-3932b403d44f ;
##   frbr:realizationOf   pensoft:3ae121b6-2544-44f8-941e-798fdb4558bc .
##  pensoft:F2537282   rdf:type   doco:Figure ;
##   po:contains   pensoft:20a1945a-199a-424f-ba3c-4d56304a7dc1 ;
##   frbr:realizationOf   pensoft:3fa43cbd-b959-4055-939c-a124cfd73966 .
##  pensoft:F2537284   rdf:type   doco:Figure ;
##   po:contains   pensoft:ebb925a9-cfe3-4aef-bb06-ed35e192e7dc ;
##   frbr:realizationOf   pensoft:ee1dbdb9-c6e1-40c2-9a53-b7cde3af301d .
##  pensoft:F2537286   rdf:type   doco:Figure ;
##   po:contains   pensoft:6e80adea-999d-44bd-9cd5-3fc125b55ddc ;
##   frbr:realizationOf   pensoft:20e55272-02f4-415a-b123-9ade73950801 .
##  pensoft:F2537288   rdf:type   doco:Figure ;
##   po:contains   pensoft:8d8b1d4c-de87-4384-9372-788e84e3fa71 ;
##   frbr:realizationOf   pensoft:68c64c66-c394-41fd-b5e4-be8cfccc4565 .
##  pensoft:F2537290   rdf:type   doco:Figure ;
##   po:contains   pensoft:18d26967-8c3a-4b19-9b54-30a7e7e8109a ;
##   frbr:realizationOf   pensoft:d02438f6-dec2-4fcb-baf9-6fa3078d054a .
##  pensoft:F2537302   rdf:type   doco:Figure ;
##   po:contains   pensoft:30912e44-2f80-4214-a0a2-1bac357c0000 ;
##   frbr:realizationOf   pensoft:3498fd2d-6cc2-4adf-b81f-362ee5308f81 .
##  pensoft:F2537304   rdf:type   doco:Figure ;
##   po:contains   pensoft:ee87eecf-a1b5-4f23-90c1-eb961bd8d7ad ;
##   frbr:realizationOf   pensoft:a13117ec-4e52-4f25-bc9e-370b6e162751 .
##  pensoft:2b123794-1398-47a7-8f26-7fc289d1c8db   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus garrywardi female antenna" ;
##   frbr:realizationOf   pensoft:bfa0219b-574e-4ccc-85c6-afd2b8213f1d .
##  pensoft:9b658586-8d98-434c-acdc-fc2acb8f939b   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus garrywardi head, front view" ;
##   frbr:realizationOf   pensoft:7a4dd658-5ad0-40b9-bc3d-2575d9b8a0ed .
##  pensoft:3778351a-7688-424e-bfe0-0f2bc99093d8   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus garrywardi head, posterior view" ;
##   frbr:realizationOf   pensoft:ea0619e6-437b-4e69-9f88-2cf9917d57a6 .
##  pensoft:b9e78752-e9d0-4d99-a7df-3932b403d44f   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus garrywardi dorsal mesosoma excluding pronotum" ;
##   frbr:realizationOf   pensoft:158d6710-25b4-4fd7-87b3-c324dd9d153a .
##  pensoft:20a1945a-199a-424f-ba3c-4d56304a7dc1   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus garrywardi ovipositor" ;
##   frbr:realizationOf   pensoft:c1b13c11-3ac8-4f1e-86c0-de497adbfca8 .
##  pensoft:ebb925a9-cfe3-4aef-bb06-ed35e192e7dc   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus garrywardi fore wing" ;
##   frbr:realizationOf   pensoft:a1a42ad1-ea1a-46b9-869f-24611fffe9cd .
##  pensoft:6e80adea-999d-44bd-9cd5-3fc125b55ddc   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus liangyihchoui female antenna" ;
##   frbr:realizationOf   pensoft:82a51b03-a30d-4ba7-a1ce-406d0106096b .
##  pensoft:8d8b1d4c-de87-4384-9372-788e84e3fa71   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus liangyihchoui head, right half front view, left half posterior view"
##   frbr:realizationOf   pensoft:2d453765-74a4-4888-a180-1989603b9a06 .
##  pensoft:18d26967-8c3a-4b19-9b54-30a7e7e8109a   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus liangyihchoui dorsal mesosoma, excluding pronotum" ;
```

```
##   frbr:realizationOf   pensoft:52844b06-4428-4bda-992e-eb6e3ddb6fb0 .
##  pensoft:30912e44-2f80-4214-a0a2-1bac357c0000   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus liangyihchoui ovipositor" ;
##   frbr:realizationOf   pensoft:af868ec8-58a2-4229-a332-2551768d2454 .
##  pensoft:ee87eecf-a1b5-4f23-90c1-eb961bd8d7ad   rdf:type   deo:Caption ;
##   c4o:hasContent   "Eretmocerus liangyihchoui fore wing" ;
##   frbr:realizationOf   pensoft:fcafd471-5c9f-439b-8a55-4e3508017151 .
##  pensoft:65a55c3b-1484-45e0-ba62-0bfe4a04483f   rdf:type   doco:BibliographicReferenceList ;
##   frbr:realizationOf   pensoft:3ce7ac1b-6ec3-471f-bea5-15aa0e87d037 , pensoft:275fbf34-53d3-4811-815
##  pensoft:B3040396   rdf:type   doco:Reference ;
##   frbr:realizationOf   pensoft:b89c6892-c651-4d4b-8965-fe4a6f3004f7 .
##  pensoft:B2487906   rdf:type   doco:Reference ;
##   frbr:realizationOf   pensoft:cc645e1e-36b6-42af-8299-979effb77d16 , pensoft:2234b996-c537-46d9-97c
##  pensoft:B2487894   rdf:type   doco:Reference ;
##   frbr:realizationOf   pensoft:d9133a30-8050-4e07-88f5-84e4cf071e42 , pensoft:741bd593-12ff-4ff5-b0c
##  pensoft:a5ef08eb-71ed-446e-8183-639ab01f062b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:cb18058f-ef88-4509-874d-85c6f753830d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:a094d6b2-d5a5-49a5-8a8d-f3d0d8a064d7 .
##  pensoft:dc9abad6-b2d8-40b5-ab43-14362e7511dc   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1397519b-8c72-4f82-9cf0-3a4eecce6c08 .
##  pensoft:94c9bff1-cddf-407c-9174-73af2e6d579d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:262ed70a-1ac4-47a6-a63b-6831df58a726 .
##  pensoft:bfb2b4c2-129e-4a1c-b97a-0cc4929721c3   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:74adfa4e-79da-44cc-8cbe-77eb5b268e49 .
##  pensoft:af986c55-073e-4051-95f1-d1cae1321712   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:cd6f38a4-0f78-4218-80f1-62a39d0bb614 .
##  pensoft:f6f8aec4-e693-418f-a41c-975842cd9d67   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:e2d92237-5d8c-4394-81ef-929a4956aa31   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:ab334337-659b-43cd-8887-ae5979e98d47   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:200c920a-1ac1-4bc5-9607-35c1a3378efb   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:43da8a39-cf50-47a8-9b45-66a96d420a45   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:c448c49f-81aa-4e96-aace-388431a0cc3b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:262ed70a-1ac4-47a6-a63b-6831df58a726 .
##  pensoft:68c4e902-5be7-4089-ba9c-f4d09ccdcea5   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:74adfa4e-79da-44cc-8cbe-77eb5b268e49 .
##  pensoft:f902f2ee-79f5-46fd-8deb-2ad87882c644   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:021577a4-c747-4b91-a8a3-eab4e8c972f2   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:57e827bc-1dd6-418d-8cce-2791844babec   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:a094d6b2-d5a5-49a5-8a8d-f3d0d8a064d7 .
##  pensoft:1501def9-fb46-4cec-808f-0dcac3fa85cb   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1397519b-8c72-4f82-9cf0-3a4eecce6c08 .
##  pensoft:60650ae2-f5ef-4091-b0eb-fcf8df1e1880   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:262ed70a-1ac4-47a6-a63b-6831df58a726 .
##  pensoft:c221b001-8b82-4381-a8e2-8e6da432cc1a   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:74adfa4e-79da-44cc-8cbe-77eb5b268e49 .
##  pensoft:b3d8c698-762e-4450-a18b-cee5f5b3d4c9   rdf:type   trt:TaxonNameUsage ;
```

```
##   dwciri:scientificName   pensoft:cd6f38a4-0f78-4218-80f1-62a39d0bb614 .
##  pensoft:0911163c-1a1c-40f2-8849-d95c46d645f2   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:6b1ebed9-4b90-43ed-bde0-423436a3b565   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:66668fa8-69a5-4bcc-b705-7f520391212f   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:c096d99d-8956-405e-b767-f5ec7ca7d821   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:1345ab05-04fa-4ffe-b995-7a405c289a0e   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:e4634a96-b3c3-48bd-a1a2-49aef2e947ad   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:262ed70a-1ac4-47a6-a63b-6831df58a726 .
##  pensoft:b7f5f166-2375-4c13-b860-86a992e55a38   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:74adfa4e-79da-44cc-8cbe-77eb5b268e49 .
##  pensoft:81941996-75df-46d1-9217-aa18e9e38ddb   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:285dd19f-cf25-44f1-8997-8500b1512ea2   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:4edef348-340d-4462-9520-c8437e0d6e53 .
##  pensoft:0b7b96dd-557b-42eb-967c-8323b591beb0   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:7f72220c-c2ec-402f-bdb9-2d2a1a7e73f2   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:0feb564f-e87d-4ef9-8cf0-78eeb6307674   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:3ae121b6-2544-44f8-941e-798fdb4558bc   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:3fa43cbd-b959-4055-939c-a124cfd73966   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:ee1dbdb9-c6e1-40c2-9a53-b7cde3af301d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:20e55272-02f4-415a-b123-9ade73950801   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:68c64c66-c394-41fd-b5e4-be8cfccc4565   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:d02438f6-dec2-4fcb-baf9-6fa3078d054a   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:3498fd2d-6cc2-4adf-b81f-362ee5308f81   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:a13117ec-4e52-4f25-bc9e-370b6e162751   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:3ce7ac1b-6ec3-471f-bea5-15aa0e87d037   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:b42cdb9a-b778-43dc-92c0-9c3676f1229e .
##  pensoft:275fbf34-53d3-4811-8156-a36b26ec842c   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:25b3245c-275d-40ac-969b-d16ef211cb66 .
##  pensoft:20606c6a-024d-4ca5-bcdd-dc44462987a3   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:a094d6b2-d5a5-49a5-8a8d-f3d0d8a064d7 .
##  pensoft:8801c8b9-0d52-42be-aa80-87880e273675   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1397519b-8c72-4f82-9cf0-3a4eecce6c08 .
##  pensoft:1b60fe92-75f3-40c4-8d32-350eb2a9ff3b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:47793a89-0f6d-4447-8659-383144fc34be .
##  pensoft:13abb7c0-8b0f-430d-9862-ae3d4578678b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:0135e112-014b-4f1b-ad84-7e1f981a62ae .
##  pensoft:7aa7321e-38f8-46b6-b404-4433cb3b9aee   rdf:type   trt:TaxonNameUsage ;
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##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:9d7aadf3-ad83-480f-b853-6efc7e167db9   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:e1e7d7f8-6afc-462b-a320-e5a8de4e0dea   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:a094d6b2-d5a5-49a5-8a8d-f3d0d8a064d7 .
##  pensoft:e698a69a-9ef8-4de2-86d3-3c73155056d9   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1397519b-8c72-4f82-9cf0-3a4eecce6c08 .
##  pensoft:d996b0b8-bfc1-4491-ac1e-818f43a3f859   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:a7699af1-7160-42cf-95e1-51048bb53201 .
##  pensoft:a07d5707-615c-4bb9-ae62-00c13ce66b9c   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:47e0a0bc-d6cf-41c9-b1b6-d7dd2283eafc .
##  pensoft:1f19b0fb-0dbf-4cfd-8c59-23cff5fb433d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:cd6f38a4-0f78-4218-80f1-62a39d0bb614 .
##  pensoft:75772fe0-57cd-46b7-8657-9a7427a97156   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:b89c6892-c651-4d4b-8965-fe4a6f3004f7   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:b42cdb9a-b778-43dc-92c0-9c3676f1229e .
##  pensoft:cc645e1e-36b6-42af-8299-979effb77d16   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:25b3245c-275d-40ac-969b-d16ef211cb66 .
##  pensoft:2234b996-c537-46d9-97c8-3a4f9208ec8a   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:a094d6b2-d5a5-49a5-8a8d-f3d0d8a064d7 .
##  pensoft:6be0ac0e-b502-49ef-bde7-1b49b03cd5f2   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1397519b-8c72-4f82-9cf0-3a4eecce6c08 .
##  pensoft:19601a93-bc2e-4d3f-8eab-7fceea2a5b28   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:47793a89-0f6d-4447-8659-383144fc34be .
##  pensoft:db0d03be-a99e-4147-a066-9da99ce9b184   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:0135e112-014b-4f1b-ad84-7e1f981a62ae .
##  pensoft:22f482af-c121-4e1d-ba44-bca3e0068256   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
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##  pensoft:741bd593-12ff-4ff5-b0cd-b9607f2a990c   rdf:type   trt:TaxonNameUsage ;
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##  pensoft:44509cff-347f-485f-82ac-0ca4b6d4fa3d   rdf:type   trt:TaxonNameUsage ;
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##  pensoft:9d3f4018-85b6-449e-8d08-7bf8a7461d49   rdf:type   trt:TaxonNameUsage ;
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##  pensoft:d147f187-74c8-48ec-a171-19d422c85593   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:47e0a0bc-d6cf-41c9-b1b6-d7dd2283eafc .
##  pensoft:5e9de53b-13b7-4bca-8a2d-cf20ed2ab4ee   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:cd6f38a4-0f78-4218-80f1-62a39d0bb614 .
##  pensoft:57f2df6d-5b36-402c-991d-47ee72f86dc9   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:72773553-9aa6-467c-abba-6e3ca1d4d9e1   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:b42cdb9a-b778-43dc-92c0-9c3676f1229e .
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##  pensoft:17e76db0-33d2-4384-bd79-7c4e32ac0c80   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:a094d6b2-d5a5-49a5-8a8d-f3d0d8a064d7 .
##  pensoft:01624890-985d-4f45-8412-e30566dcf02e   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1397519b-8c72-4f82-9cf0-3a4eecce6c08 .
##  pensoft:23322bd9-12e9-4387-a016-c72927fc9ab4   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:47793a89-0f6d-4447-8659-383144fc34be .
##  pensoft:538a4dbc-859e-43e8-858c-44459e8e03b5   rdf:type   trt:TaxonNameUsage ;
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##   dwciri:scientificName   pensoft:0135e112-014b-4f1b-ad84-7e1f981a62ae .
##  pensoft:0acd8cb5-cc06-4fc4-b08c-68a65df6bf98   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:d020da43-a1b1-48a1-8a00-6193d9ff95c2   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
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##   dwciri:scientificName   pensoft:a094d6b2-d5a5-49a5-8a8d-f3d0d8a064d7 .
##  pensoft:17f8bfe1-4ac8-413f-9fbb-665af3289b9f   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1397519b-8c72-4f82-9cf0-3a4eecce6c08 .
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##   dwciri:scientificName   pensoft:a7699af1-7160-42cf-95e1-51048bb53201 .
##  pensoft:2b8ae1b9-c41c-4f1b-bf2c-e42054cdf8ac   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:47e0a0bc-d6cf-41c9-b1b6-d7dd2283eafc .
##  pensoft:723abc4f-9c6f-402a-bdbc-55dd6575e21b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:cd6f38a4-0f78-4218-80f1-62a39d0bb614 .
##  pensoft:8151281f-932f-4c8d-9bbf-1df6b725da79   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:642d22ed-18a8-409b-8747-3302f1246966   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:dafc5863-a929-4f22-ac47-64a4d5734758   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:b497e9a4-3a19-4c42-8837-a8f0df0bdad4   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:30e5f0d5-7907-4955-9a09-9f7f36c3d712   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:7aa6e438-3c2b-4db9-b58f-3b015d82e721 .
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##   dwciri:scientificName   pensoft:74adfa4e-79da-44cc-8cbe-77eb5b268e49 .
##  pensoft:e0242b66-4c39-4a9d-a7c3-ce53b9004047   rdf:type   trt:TaxonNameUsage ;
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##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:eb0d6c04-3d38-44e3-bc22-c2822bd6c51a   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:4edef348-340d-4462-9520-c8437e0d6e53 .
##  pensoft:83793581-42fc-4e6f-8e84-521d99d26f53   rdf:type   trt:TaxonNameUsage ;
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##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
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##  pensoft:ce78c088-60c0-4a31-8d5d-67303359cc85   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:9cd81647-a8ea-4a9a-99d8-255de873348a .
##  pensoft:556e0b5f-b410-4568-bed3-c9526e35d07a   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:e6b36d60-05e1-45c9-9108-6cd2735cd7a5   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:db4dbc25-c3f0-485a-b111-ef1c083492b4 .
##  pensoft:c1c83aeb-0ddd-4a8f-8ed7-b9c04d5c3449   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:aebeea84-ad24-4a85-9548-ece9f7e107ca .
##  pensoft:61856890-76a5-4b3c-918d-752dfccdad3b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:52041f68-9d7c-495e-a1d5-54341da3aee4   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:167aa701-a7a0-40b1-a69b-cc8e448785cb .
##  pensoft:023bb910-0d41-4b28-a7a7-a4e4e1dc004a   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:aebeea84-ad24-4a85-9548-ece9f7e107ca .
##  pensoft:76a7104d-a48d-49b5-bb56-a00469c732e8   rdf:type   trt:TaxonNameUsage ;
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##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
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##   dwciri:scientificName   pensoft:167aa701-a7a0-40b1-a69b-cc8e448785cb .
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##   dwciri:scientificName   pensoft:aebeea84-ad24-4a85-9548-ece9f7e107ca .
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##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
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##   dwciri:scientificName   pensoft:aebeea84-ad24-4a85-9548-ece9f7e107ca .
##  pensoft:f0f5d91d-6925-484f-8257-04dda4e07445   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:fb1f4e04-b7c0-462c-83c3-5d04408e338d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:167aa701-a7a0-40b1-a69b-cc8e448785cb .
##  pensoft:4547c991-edd5-470d-8b04-e429475fd8f7   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1be44897-33a6-4fb3-ba01-8797ac8ad0f2 .
##  pensoft:8f6fb59c-f294-4ca8-aed4-1f2183a8faf6   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:361f6fb2-e41c-4a28-9b68-615ab5300092   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:f8b60b4f-5583-45cd-b257-f0d3473f826e   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:cd6f38a4-0f78-4218-80f1-62a39d0bb614 .
##  pensoft:d3565137-8288-4d99-86c2-694a0aec72f4   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:7284a796-30d1-4e2a-88b6-140b741d4584   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:74adfa4e-79da-44cc-8cbe-77eb5b268e49 .
##  pensoft:e3a3be7b-c629-45d9-bd0c-5f9ac923c382   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:4edef348-340d-4462-9520-c8437e0d6e53 .
##  pensoft:a029764e-1de5-4959-9df1-e8de50d24da7   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:b84bb426-f605-4c20-9fc0-4cb2e8435453 .
##  pensoft:f9e3e733-6f38-49a0-99c3-bed321fba9ae   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:262ed70a-1ac4-47a6-a63b-6831df58a726 .
##  pensoft:86764f61-a211-40bf-8e53-bf01a8dd3e85   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:b9be27a9-a9c1-4b6a-a8c3-861ecb0d8a62 .
##  pensoft:9642422c-3148-4303-a65a-a73006306da4   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:a2c3c3da-32a7-46e0-b912-dd9b3369cfa9   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:262ed70a-1ac4-47a6-a63b-6831df58a726 .
##  pensoft:aaa63e48-a4eb-4674-9da2-ec264d342a3a   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:b9be27a9-a9c1-4b6a-a8c3-861ecb0d8a62 .
##  pensoft:1afbb5a9-d86b-4113-9a0c-a62d15dbd882   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:b85c48ad-3bc9-4cad-abf2-aba1cfe6c15e   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:d10189a2-c2fd-487e-a74a-8492cbf40919   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:2b1f24c2-6a7e-4d24-938f-67f2efd2dcd4 .
##  pensoft:62715e74-65b4-446a-afdf-e4193d662529   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:5e207683-a0b2-4193-849a-2e9788d5eb2d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:6bf54aec-2645-464d-a631-686f10d4c795   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:0639f616-d9b5-4c01-9b96-5d39f597f215 .
##  pensoft:9ecc18f5-03aa-427b-b8ad-8f6267a0a45f   rdf:type   trt:TaxonNameUsage ;
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##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:40b9cda1-1a9c-4348-923b-475d262506e3   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:c3d79eb2-6bd2-4025-8310-85a1db1fd59d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:0639f616-d9b5-4c01-9b96-5d39f597f215 .
##  pensoft:5b60341f-99d5-45bd-85c4-6e69717b7266   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:1935e369-ef64-4b65-979f-183148c3dff7   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:d7ee470a-9804-4cff-b55e-b3f4519a7088   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:0639f616-d9b5-4c01-9b96-5d39f597f215 .
##  pensoft:3823404d-15ad-4c20-8629-5e16dd8959ee   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:de228f2a-594d-47a1-8139-a0171f8d6edb   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:9032b38b-61eb-4192-9dc2-ad57bd64b03b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:6bb687ed-11bc-4dee-9c0d-7bcc0c08825f .
##  pensoft:7dce15f4-1e3a-4639-bd8a-9040f23c6741   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:18ea9786-2f1a-4bb3-8b31-7b4f37ad1884   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:9c0f0db9-7ce7-45b3-a6d0-9495b607ecc7   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:3d980983-feb2-4b73-b4ef-77b459b5113a .
##  pensoft:0c2650a3-d574-4219-8e51-f37308d07e6d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
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##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:1bfff84f-0b35-4fa3-b1c6-f3807b6901bf   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:3d980983-feb2-4b73-b4ef-77b459b5113a .
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##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:7cd80975-693d-4987-863a-9bfe2e5f2fdf   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
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##  pensoft:dddb560d-5827-4a1d-a33f-724681d3c6e0   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:0639f616-d9b5-4c01-9b96-5d39f597f215 .
##  pensoft:33943460-c128-48c8-a068-92f0a69e832e   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:05600529-9455-40b4-8896-4d883ac6f218   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:2e69dd3b-ad31-4991-8acd-bffe3e5a7619   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:3d980983-feb2-4b73-b4ef-77b459b5113a .
##  pensoft:fd53ad07-2ad2-46fe-9072-64654f0dd294   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:37196fa9-251b-4d80-8b1a-4ad18440a0ad   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:9bd2376b-7d40-4f86-b872-4eebbea0e6c5   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:0639f616-d9b5-4c01-9b96-5d39f597f215 .
##  pensoft:f1fff994-7cf3-4faa-89cc-465272715549   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:bf462671-32fa-43fd-aaa9-3dd29df15313   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:6a850cde-dd24-4387-b32a-8a7de7f142fb   rdf:type   trt:TaxonNameUsage ;
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##   dwciri:scientificName   pensoft:3d980983-feb2-4b73-b4ef-77b459b5113a .
##  pensoft:4f18f37a-2893-422b-92a3-778170426ffd   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:d079906d-97d7-4357-a01b-f26d3205adc6   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:e9928c2f-be73-4418-b7fa-4c55746cfab1   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:3993cd1c-a8bb-4768-8238-7f19a8754056 .
##  pensoft:f8c58592-a69f-403a-aea3-f4e09346906b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:bbe3c54a-e1b6-4492-8291-0833151632ca   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:ecf22257-f260-4409-9920-25bbf6e602df   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:3d980983-feb2-4b73-b4ef-77b459b5113a .
##  pensoft:c651fd8e-5a84-457a-bf52-71a7069c2ee5   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:1a9c3a85-4d22-45a8-ac7a-b7346f804a9d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:cf3aa31d-4327-4e5e-851c-f34b5619324f   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:81c39349-4b60-42d2-996f-f9f5d1aeda07 .
##  pensoft:66fe1732-fbb6-412e-905c-b7596d7fc4e4   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:91c0dba0-213b-438b-98f3-2cc3ca48ebf9   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:3c4dba3f-955c-4746-899e-c8c6e8e35508 .
##  pensoft:1e375185-b2e1-49a0-800f-0393ddd0e2e9   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5bc964ce-cebd-4961-914b-b6664cd4e1f3 .
##  pensoft:03eaae84-8a43-4d29-a873-ee03badb46ee   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:b134a9d4-9532-45fb-be2f-f997dc3124d5   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:64f67515-58a5-47d4-972e-88127ec853d8   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:0639f616-d9b5-4c01-9b96-5d39f597f215 .
##  pensoft:f6d6b496-ebb7-4b3d-92e2-007f62208ea6   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:92ffd475-dd6a-4774-a1cc-f0871719a4cb   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:e5dcb351-b5f4-439d-a98b-d3140792fcb6   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:84d4e901-7398-458c-9ccf-e47df574b7d1 .
##  pensoft:e44a59e9-fa0e-4d45-b4f6-2264c7cb2332   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:5fa95b61-15cd-490b-a3ea-8546b4ad6e06   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:d6cdab82-d56f-416d-b8a7-14771cc615f6   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:e6c0c360-1b18-4b9f-b566-f93636e51185 .
##  pensoft:eb4c2b0f-6114-4eb8-b6f3-1e5b248c7a3e   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:2d15d7ea-6956-420e-8334-9de5e121c5b3   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:ca35257e-d9e8-449a-8088-48b3706ea5dd   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:e6c0c360-1b18-4b9f-b566-f93636e51185 .
##  pensoft:ffbadb95-eae0-42f4-b06b-6255587db3c3   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:7d490918-c657-4ce3-b763-de222248adf0   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:917673d8-7dc6-4501-8a6c-1d8bdf3ff5ce   rdf:type   trt:TaxonNameUsage ;
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##   dwciri:scientificName   pensoft:3993cd1c-a8bb-4768-8238-7f19a8754056 .
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##  pensoft:75aafe55-eb58-4154-871a-9ed7453f93e1   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:29a2d3ad-7c63-47a5-a4eb-4f89bcb1cb58 .
##  pensoft:00127047-eeec-42a8-9f82-a33ec9dee49f   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:3993cd1c-a8bb-4768-8238-7f19a8754056 .
##  pensoft:2368d400-61b1-42bd-89ec-ff250e2a54ee   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:7711f704-a325-4def-8160-3b6b4365b240   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:98ef095a-5e9a-4438-b9e3-00ce83c04736   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1f9c1c7d-bdf3-4a14-bf57-15062d552e0c .
##  pensoft:540e4453-0874-4786-b63a-57b2f260eef6   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:1397519b-8c72-4f82-9cf0-3a4eecce6c08 .
##  pensoft:d693e6a3-55c5-4479-b8cf-ed24d4d3cd15   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:cd6f38a4-0f78-4218-80f1-62a39d0bb614 .
##  pensoft:6d1a6fec-571c-4dca-ae86-f5021af1c49e   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:5152cbf0-46d4-4efb-bf9d-0352c2f50012 .
##  pensoft:cdf74710-db5f-4895-9510-26d4a3e37712   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:262ed70a-1ac4-47a6-a63b-6831df58a726 .
##  pensoft:379b380e-8ba3-47bc-905d-7d20933f55a1   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:f2a2705e-739a-4ad1-beaf-b0a4f9fb42f9 .
##  pensoft:ff13c7d5-7b3a-4ce0-8c1c-674796e13453   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:6a8701b8-1dc1-413c-b77d-aa00cb7a0d71 .
##  pensoft:8d69dc21-ea19-47c0-997e-d8989196df37   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:d3ce81a0-3577-4a57-adc6-257733a00e03 .
##  pensoft:8f7985b3-bdfa-44e1-9831-250640ca45ee   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:71404edd-a581-4864-9f08-1b14eaa50ecc .
##  pensoft:7179f436-e8f6-4c18-a9fd-6d6c7caf13a2   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:66f12a89-643b-494c-a612-d9f462d21a71 .
##  pensoft:b5530afb-da50-42d5-8126-1b2bd24f8765   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:3b7afaaa-3832-4272-a130-fc25e77e7af4 .
##  pensoft:7f31f7c3-b0be-4bf5-b5f3-37fc88f78a67   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:2640472b-84f3-4d2d-b45f-324ee7147157 .
##  pensoft:762bd75e-2c43-4a39-b4d8-41ba2390717b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:58db1790-74bd-4a61-a88f-e53deeed5556 .
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##   dwciri:scientificName   pensoft:3cad41f1-bd4e-4d86-88a6-822d9a33e463 .
##  pensoft:e828fe87-59dd-4d1e-b614-65776afc1c6c   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:fdd8c3c6-6431-4a5c-8854-ee41712734f0 .
##  pensoft:60c2935e-cc33-400f-86f1-e1a6ce290158   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:bc37cf00-b7f1-4ceb-9738-820c3409fa15 .
##  pensoft:e6952bed-29fe-495e-97cf-23c0c7e50bd8   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:8034b6f2-ebb0-4976-8bb4-c6f302460f69 .
##  pensoft:b205d044-a842-4429-9960-e9f64ea3ad68   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:eaac1df3-d70c-47e8-95d5-3d1c4b93d1d8 .
##  pensoft:de3b18cf-cef2-4157-b702-7691c758dd6a   frbr:realizationOf   pensoft:313369ab-333c-4258-8811
##   rdf:type   trt:Nomenclature .
##  pensoft:313369ab-333c-4258-8811-0b0bf42b4a1c   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:7aa6e438-3c2b-4db9-b58f-3b015d82e721 .
##  pensoft:53ad7d86-e15f-4ee8-9614-0d8e0e2f2e51   frbr:realizationOf   pensoft:0af8abbe-8ede-450e-817d
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##  pensoft:bfa0219b-574e-4ccc-85c6-afd2b8213f1d   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:7a4dd658-5ad0-40b9-bc3d-2575d9b8a0ed   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:ea0619e6-437b-4e69-9f88-2cf9917d57a6   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:158d6710-25b4-4fd7-87b3-c324dd9d153a   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:c1b13c11-3ac8-4f1e-86c0-de497adbfca8   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:a1a42ad1-ea1a-46b9-869f-24611fffe9cd   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:df7a71ea-0b3b-43b0-91e6-418e12f2a87f .
##  pensoft:82a51b03-a30d-4ba7-a1ce-406d0106096b   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:2d453765-74a4-4888-a180-1989603b9a06   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:52844b06-4428-4bda-992e-eb6e3ddb6fb0   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:af868ec8-58a2-4229-a332-2551768d2454   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:fcafd471-5c9f-439b-8a55-4e3508017151   rdf:type   trt:TaxonNameUsage ;
##   dwciri:scientificName   pensoft:97fed37e-291a-4bc1-be34-fbed29a31ed3 .
##  pensoft:f71ea557-efde-435a-bca5-55d2f146fa00   rdf:type   trt:NomenclaturalAct ;
##   trt:ValidName   pensoft:7aa6e438-3c2b-4db9-b58f-3b015d82e721 .
##  pensoft:164dc14e-5d04-4950-9f41-4e82da0c7288   rdf:type   trt:NomenclaturalAct ;
##   trt:ValidName   pensoft:b84bb426-f605-4c20-9fc0-4cb2e8435453 . }
```

Side note: Note that at the moemnt `xml2rdf` *changes state*. It returns the RDF serialization of the XML file and in addition to that extends the knowledge graph with some nodes that are used in the returned turtle. This needed because say a given name "Aus bus" is used somewhere in the text. The sytem tries to resolve and return an identifier for this name in the Knowledge Graph, if the name is not found, the system automatically mints a new identifier and tells it to the Knowledge Graph. Otherwise, the name would not be resolved the next time it appears.

This is at odds with the functional programming paradigm as it mixes logic and state. http://curtclifton.net/papers/MoseleyMarks06a.pdf Better approach will be explained during the seminar.

Now we can submit the Turtle to the system:

```
processing_status = httr::content( rdf4jr::add_data(server_access_options, server_access_options$reposi
```

```
## No encoding supplied: defaulting to UTF-8.
```