Jena 3
Consultando la web semántica con *SPARQL*

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Índice general

Resumen

En este documento se muestran las consultas y resultados obtenidos en los diferentes ejercicios propuestos. Se utiliza para tal fin una aplicación en desarrollada en *Java* para la realización de consultas *SPARQL*.

Estas consultas podrán realizarse en local –mediante un fichero *RDF* de entrada– o en remoto –utilizando una dirección URL hacia un *endpoint* desde el cual se desee realizar la consulta.

El resultado de las consultas *SPARQL* pueden ser visualizados desde la aplicación o almacenados un fichero local en dos posibles formatos: texto o *SRX*.

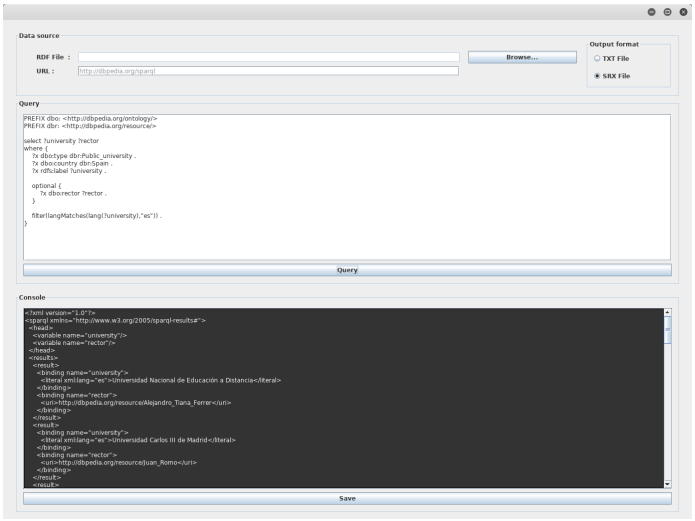

Figura 1: Programa desarrollado en *Java* para realizar consultas *SPARQL*

Consultas locales utilizando un fichero *RDF*

1.1. Obtener el número total de artículos

```
SELECT (COUNT(?article) AS ?articles)
WHERE
{
    ?article rdfs:label "article" .
}
```

Listing 1.1: Consulta SPARQL

```
-------------
| articles  |
=============
| 3196      |
-------------
```

Listing 1.2: Resultado en formato *TXT*

```
<?xml version="1.0"?>
<sparql xmlns="http://www.w3.org/2005/sparql-results#">
  <head>
    <variable name="articles"/>
  </head>
  <results>
    <result>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">3196</literal>
      </binding>
    </result>
  </results>
</sparql>
```

Listing 1.3: Resultado en formato *SRX*

1.2. Obtener el número de artículos para cada una de las revistas por orden creciente de número de artículos

```
SELECT ?journal (COUNT (?article) AS ?articles)
WHERE
```

```
{
    ?pub dcterms:type ?article .
    ?article rdfs:label "article" .

    ?pub dcterms:isPartOf ?x .
    ?x dcterms:isPartOf ?y .
    ?y rdfs:label ?journal .
}
GROUP BY ?journal
ORDER BY ?articles
```

Listing 1.4: Consulta SPARQL

```
--
   ------------------------------------------------------------------------------------------------

| journal
                                                    | articles |
==================================================================================================

| "PALEONTOLOGICAL SOCIETY PAPERS"
                                                    | 2        |
| "GEOLOGISCHES JAHRBUCH REIHE A"
                                                    | 3        |
| "PALAEOBIODIVERSITY AND PALAEOENVIRONMENTS"
                                                    | 4        |
| "MEMOIRS- GEOLOGICAL SOCIETY OF AMERICA"
                                                    | 7        |
| "ANNALES DE PALEONTOLOGIE"
                                                    | 8        |
| "BOLLETTINO- SOCIETA PALEONTOLOGICA ITALIANA"
                                                    | 8        |
| "PALAEONTOLOGISCHE ZEITSCHRIFT"
                                                    | 9        |
| "PALAONTOLOGISCHE ZEITSCHRIFT"
                                                    | 9        |
| "SWISS JOURNAL OF PALAEONTOLOGY"
                                                    | 9        |
| "ANNALS- CARNEGIE MUSEUM PITTSBURGH"
                                                    | 12       |
| "JOURNAL OF SYSTEMATIC PALAEONTOLOGY"
                                                    | 13       |
| "BULLETINS OF AMERICAN PALEONTOLOGY"
                                                    | 16       |
| "JOURNAL OF MICROPALAEONTOLOGY"
                                                    | 16       |
| "REVUE DE MICROPALEONTOLOGIE"
                                                    | 16       |
| "JOURNAL- PALEONTOLOGICAL SOCIETY OF KOREA"
                                                    | 17       |
| "REVISTA ESPANOLA DE MICROPALEONTOLOGIA"
                                                    | 20       |
| "SPECIAL PAPERS IN PALAEONTOLOGY"
                                                    | 23       |
| "MITTEILUNGEN- MUSEUM FUR NATURKUNDE IN BERLIN
  GEOWISSENSCHAFTLICHE REIHE"                                         | 25
      |
| "PUBLICATIONS- SOCIETY OF ECONOMIC PALAEONTOLOGISTS AND
  MINERALOGISTS PERMIAN BASIN SECTION PBS SEPM" | 30        |
| "REVUE DE PALEOBIOLOGIE"
                                                    | 33       |
| "RIVISTA ITALIANA DI PALEONTOLOGIA E STRATIGRAFIA"
```

```
                                                  | 38           |
| "ICHNOS -CHUR-"
                                                  | 42           |
| "PALEONTOLOGICAL RESEARCH"
                                                  | 42           |
| "PALAEOWORLD"
                                                  | 45           |
| "FACIES"
                                                  | 49           |
| "HISTORICAL BIOLOGY"
                                                  | 54           |
| "VERTEBRATA PALASIATICA"
                                                  | 55           |
| "ALCHERINGA"
                                                  | 64           |
| "MARINE MICROPALAEONTOLOGY"
                                                  | 64           |
| "LETHAIA"
                                                  | 69           |
| "COMPTES RENDUS PALEVOL"
                                                  | 74           |
| "PALEOBIOLOGY -CHICAGO-"
                                                  | 77           |
| "ACTA PALAEONTOLOGICA SINICA"
                                                  | 80           |
| "BOREAS -OSLO-"
                                                  | 85           |
| "ACTA PALAEONTOLOGICA POLONICA"
                                                  | 99           |
| "JOURNAL OF NATURAL RESOURCES AND LIFE SCIENCES EDUCATION"
                                                  | 114          |
| "JOURNAL OF PALEONTOLOGY"
                                                  | 128          |
| "GEOBIOS -JODHPUR-"
                                                  | 137          |
| "PALEONTOLOGICAL JOURNAL C/C OF PALEONTOLOGICHESKII ZHURNAL"
                                                  | 139          |
| "PALAEONTOLOGY"
                                                  | 140          |
| "ANAIS- ACADEMIA BRASILEIRA DE CIENCIAS"
                                                  | 185          |
| "NEUES JAHRBUCH FUR GEOLOGIE UND PALAONTOLOGIE ABHANDLUNGEN"
                                                  | 226          |
| "SPECIAL PAPERS- GEOLOGICAL SOCIETY OF AMERICA"
                                                  | 340          |
| "PALAEOGEOGRAPHY PALAEOCLIMATOLOGY PALAEOECOLOGY"
                                                  | 570          |
--
    ------------------------------------------------------------------------------------------------
```

Listing 1.5: Resultado en formato *TXT*

```
<?xml version="1.0"?>
<sparql xmlns="http://www.w3.org/2005/sparql-results#">
  <head>
    <variable name="journal"/>
    <variable name="articles"/>
  </head>
  <results>
    <result>
      <binding name="journal">
```

```
10          <literal>PALEONTOLOGICAL SOCIETY PAPERS</literal>
11        </binding>
12        <binding name="articles">
13          <literal datatype="http://www.w3.org/2001/XMLSchema#integer
      ">2</literal>
14        </binding>
15      </result>
16      <result>
17        <binding name="journal">
18          <literal>GEOLOGISCHES JAHRBUCH REIHE A</literal>
19        </binding>
20        <binding name="articles">
21          <literal datatype="http://www.w3.org/2001/XMLSchema#integer
      ">3</literal>
22        </binding>
23      </result>
24      <result>
25        <binding name="journal">
26          <literal>PALAEOBIODIVERSITY AND PALAEOENVIRONMENTS</literal
      >
27        </binding>
28        <binding name="articles">
29          <literal datatype="http://www.w3.org/2001/XMLSchema#integer
      ">4</literal>
30        </binding>
31      </result>
32      <result>
33        <binding name="journal">
34          <literal>MEMOIRS- GEOLOGICAL SOCIETY OF AMERICA</literal>
35        </binding>
36        <binding name="articles">
37          <literal datatype="http://www.w3.org/2001/XMLSchema#integer
      ">7</literal>
38        </binding>
39      </result>
40      <result>
41        <binding name="journal">
42          <literal>ANNALES DE PALEONTOLOGIE</literal>
43        </binding>
44        <binding name="articles">
45          <literal datatype="http://www.w3.org/2001/XMLSchema#integer
      ">8</literal>
46        </binding>
47      </result>
48      <result>
49        <binding name="journal">
50          <literal>BOLLETTINO- SOCIETA PALEONTOLOGICA ITALIANA</
      literal>
51        </binding>
52        <binding name="articles">
53          <literal datatype="http://www.w3.org/2001/XMLSchema#integer
      ">8</literal>
54        </binding>
55      </result>
56      <result>
57        <binding name="journal">
58          <literal>PALAEONTOLOGISCHE ZEITSCHRIFT</literal>
59        </binding>
60        <binding name="articles">
61          <literal datatype="http://www.w3.org/2001/XMLSchema#integer
      ">9</literal>
62        </binding>
```

```
    </result>
    <result>
      <binding name="journal">
        <literal>PALAONTOLOGISCHE ZEITSCHRIFT</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>SWISS JOURNAL OF PALAEONTOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>ANNALS– CARNEGIE MUSEUM PITTSBURGH</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">12</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>JOURNAL OF SYSTEMATIC PALAEONTOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">13</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>BULLETINS OF AMERICAN PALEONTOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">16</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>JOURNAL OF MICROPALAEONTOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">16</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>REVUE DE MICROPALEONTOLOGIE</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">16</literal>
```

```
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>JOURNAL– PALEONTOLOGICAL SOCIETY OF KOREA</literal
    >
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">17</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>REVISTA ESPANOLA DE MICROPALEONTOLOGIA</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">20</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>SPECIAL PAPERS IN PALAEONTOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">23</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>MITTEILUNGEN– MUSEUM FUR NATURKUNDE IN BERLIN
    GEOWISSENSCHAFTLICHE REIHE</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">25</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>PUBLICATIONS– SOCIETY OF ECONOMIC PALAEONTOLOGISTS
     AND MINERALOGISTS PERMIAN BASIN SECTION PBS SEPM</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">30</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>REVUE DE PALEOBIOLOGIE</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">33</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>RIVISTA ITALIANA DI PALEONTOLOGIA E STRATIGRAFIA</
```

```
    literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">38</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>ICHNOS -CHUR-</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">42</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>PALEONTOLOGICAL RESEARCH</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">42</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>PALAEOWORLD</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">45</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>FACIES</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">49</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>HISTORICAL BIOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">54</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>VERTEBRATA PALASIATICA</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">55</literal>
      </binding>
    </result>
    <result>
```

```
      <binding name="journal">
        <literal>ALCHERINGA</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">64</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>MARINE MICROPALAEONTOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">64</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>LETHAIA</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">69</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>COMPTES RENDUS PALEVOL</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">74</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>PALEOBIOLOGY -CHICAGO-</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">77</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>ACTA PALAEONTOLOGICA SINICA</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">80</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>BOREAS -OSLO-</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">85</literal>
      </binding>
    </result>
```

```
    <result>
      <binding name="journal">
        <literal>ACTA PALAEONTOLOGICA POLONICA</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">99</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>JOURNAL OF NATURAL RESOURCES AND LIFE SCIENCES
    EDUCATION</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">114</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>JOURNAL OF PALEONTOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">128</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>GEOBIOS -JODHPUR-</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">137</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>PALEONTOLOGICAL JOURNAL C/C OF PALEONTOLOGICHESKII
     ZHURNAL</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">139</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>PALAEONTOLOGY</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">140</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>ANAIS- ACADEMIA BRASILEIRA DE CIENCIAS</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
```

```
    ">185</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>NEUES JAHRBUCH FUR GEOLOGIE UND PALAONTOLOGIE
    ABHANDLUNGEN</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">226</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>SPECIAL PAPERS– GEOLOGICAL SOCIETY OF AMERICA</
    literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">340</literal>
      </binding>
    </result>
    <result>
      <binding name="journal">
        <literal>PALAEOGEOGRAPHY PALAEOCLIMATOLOGY PALAEOECOLOGY</
    literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">570</literal>
      </binding>
    </result>
  </results>
</sparql>
```

Listing 1.6: Resultado en formato *SRX*

1.3. Obtener el título y número de autores de los artículos que poseen más de 8 autores por orden decreciente de número de autores

```
SELECT ?title (COUNT(?creator) AS ?authors)
WHERE
{
    ?pub dcterms:type ?article .
    ?article rdfs:label "article" .

    ?pub dcterms:title ?title .

    ?pub dcterms:creator ?creator .
}
GROUP BY ?title
HAVING (?authors > 8)
ORDER BY DESC(?authors)
```

Listing 1.7: Consulta SPARQL

```
--
| title                                                                         | authors |
==
| "Moncucco Torinese, a new post-evaporitic Messinian fossiliferous site from Piedmont (NW Italy). (With 6 figures)" | 20 |
| "A new freshwater crab (Decapoda: Brachyura: Potamonautidae) from the Paleogene of Tanzania, Africa. (With 2 figures and 1 table)" | 16 |
| "The lithostratigraphy of the Les Echets basin, France: tentative correlation between cores" | 11 |
| "1,4- Addition of diazomethane to a heterodiene: a direct preparation of the oxazolic ring" | 10 |
| "A 45kyr palaeoclimate record from the lowland interior of tropical South America" | 10 |
| "A baseline paleoecological study for the Santa Cruz Formation (late-early Miocene) at the Atlantic coast of Patagonia, Argentina" | 10 |
| "A new basal ornithopod dinosaur from the Upper Cretaceous of South Korea. (With 18 figures and 2 tables)" | 10 |
| "An Integrated Analysis of the Use of Woodstoves to Supplement Fossil Fuel-Fired Domestic Heating" | 10 |
| "Biogeochemical indicators of environmental changes from 50Ka to 10Ka in a humid region of the Brazilian Amazon" | 10 |
| "Carbonate and organic matter sedimentation and isotopic signatures in Lake Chungara, Chilean Altiplano, during the last 12.3kyr" | 10 |
| "Changes in shell durability of common marine taxa through the Phanerozoic: evidence for biological rather than taphonomic
```

```
    drivers"

         | 10      |
15 | "Comparison of stable isotope time series of stalagmite and
    meteorological data from West Java, Indonesia"


         | 10      |
16 | "Early Triassic (Induan) Radiolaria and carbon-isotope ratios of
    a deep-sea sequence from Waiheke Island, North Island, New
    Zealand"

        | 10      |
17 | "Environmental and vegetational changes recorded in sedimentary
    leaf wax n-alkanes across the Cretaceous-Paleogene boundary at
    Loma Capiro, Central Cuba"

     | 10      |
18 | "Evidence de l'age Trias inferieur (Olenekien) dans le Bassin d'
    Argana (Haut Atlas, Maroc) basee sur des traces chirotherioides
    "

     | 10      |
19 | "Geological and geochemical aspects of a Devonian siliceous
    succession in northern Thailand: Implications for the opening
    of the Paleo-Tethys"

          | 10      |
20 | "High Geologic Slip Rates since Early Pleistocene Initiation of
    the San Jacinto and San Felipe Fault Zones in the San Andreas
    Fault System: Southern California, USA"

      | 10      |
21 | "High-resolution analysis of trace elements in crustose coralline
     algae from the North Atlantic and North Pacific by laser
    ablation ICP-MS"

         | 10      |
22 | "Histological modifications of the rat prostate following
    transection of somatic and autonomic nerves"


          | 10      |
23 | "Imagerie par rayonnement X synchrotron d'inclusions dans l'ambre
    "

                                                                    |
     10      |
24 | "Integrated chronostratigraphy of an intra-arc basin: ^4^0Ar/^3^9
    Ar datings, micropalaeontology and magnetostratigraphy of the
    early Miocene Castelsardo basin (northern Sardinia, Italy)"

     | 10      |
25 | "Integrating Field-Based Research into the Classroom: An
    Environmental Sampling Exercise"


           | 10      |
26 | "Late Eocene sea retreat from the Tarim Basin (west China) and
    concomitant Asian paleoenvironmental change"
```

```
    | 10      |
27  | "Late Little Ice Age palaeoenvironmental records from the Anzali
      and Amirkola Lagoons (south Caspian Sea): Vegetation and sea
      level changes"

    | 10      |
28  | "Late Quaternary paleoenvironmental records from the western Lena
      Delta, Arctic Siberia"

                                                                      |
    10      |
29  | "Mg/Ca and d^1^8O in the brackish shallow-water benthic
      foraminifer Ammonia 'beccarii'"

              | 10      |
30  | "Micropaleontologic record of Quaternary paleoenvironments in the
      Central Albemarle Embayment, North Carolina, U.S.A."

                                                                      |
    10      |
31  | "Modelling Late Miocene vegetation in Europe: Results of the
      CARAIB model and comparison with palaeovegetation data"

        | 10      |
32  | "Multi proxy evidence for early to mid Holocene environmental and
      climatic changes in northeastern Poland"

                                                                      |
    10      |
33  | "Net dextral slip, Neogene San Gregorio-Hosgri fault zone,
      coastal California: Geologic evidence and tectonic implications
      "

          | 10      |
34  | "Onset and termination of the late-glacial climate reversal in
      the high-resolution diatom and sedimentary records from the
      annually laminated SG06 core from Lake Suigetsu, Japan"

        | 10      |
35  | "Oxygen and carbon isotope compositions of middle Cretaceous
      vertebrates from North Africa and Brazil: Ecological and
      environmental significance"

              | 10      |
36  | "Palaeoenvironmental and palaeoclimatic reconstruction of the
      Latest Pleistocene of El Portalon Site, Sierra de Atapuerca,
      northwestern Spain"

        | 10      |
37  | "Palaeoenvironmental studies in NW Iberia (Cantabrian range):
      Vegetation history and synthetic approach of the last
      deglaciation phases in the western Mediterranean"

              | 10      |
38  | "Paleoecology of commensal epizoans fouling Flexicalymene (
      Trilobita) from the Upper Ordovician, Cincinnati Arch region,
      USA"

          | 10      |
39  | "Paper II - Dirt, dates and DNA: OSL and radiocarbon chronologies
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     of perennially frozen sediments in Siberia, and their
    implications for sedimentary ancient DNA studies"

           | 10      |
40 | "Pleistocene environments and human presence in the middle Atbara
     valley (Khashm El Girba, Eastern Sudan)"

                                                                    |
     10      |
41 | "Postglacial changes in the Asian summer monsoon system: a pollen
     record from the eastern margin of the Tibetan Plateau"

                                                                    |
     10      |
42 | "Revised correlation of Silurian Provincial Series of North
     America with global and regional chronostratigraphic units and
    13Ccarb chemostratigraphy"

       | 10      |
43 | "Sea ice extent and seasonality for the Early Pliocene northern
     Weddell Sea"

    | 10      |
44 | "Sequence stratigraphy of the ANDRILL AND-2A drillcore,
     Antarctica: A long-term, ice-proximal record of Early to Mid-
    Miocene climate, sea-level and glacial dynamism"

             | 10      |
45 | "Source, timing, frequency and flux of ice-rafted detritus to the
     Northeast Atlantic margin, 30-12 ka: testing the Heinrich
    precursor hypothesis"

        | 10      |
46 | "Spatial variation in sediment fluxes, redox conditions, and
     productivity in the Permian-Triassic Panthalassic Ocean"

       | 10      |
47 | "The Late Ordovician glacio-eustatic record from a high-latitude
     storm-dominated shelf succession: The Bou Ingarf section (Anti-
    Atlas, Southern Morocco)"
                                                                    |
     10      |
48 | "The Permian-Triassic transition and the onset of Mesozoic
     sedimentation at the northwestern peri-Tethyan domain scale:
    Palaeogeographic maps and geodynamic implications"

           | 10      |
49 | "The anatomy, taphonomy, taxonomy and systematic affinity of
     Markuelia: Early Cambrian to Early Ordovician scalidophorans"

       | 10      |
50 | "The mid-Capitanian (Middle Permian) mass extinction and carbon
     isotope record of South China"

    | 10      |
51 | "Un nouveau site a vertebres terrestres juste apres la limite
     Paleocene-Eocene, dans la Formation de Mortemer en Haute-
    Normandie, France"
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            | 10        |
| "Anti-inflammatory, antinociceptive, and antipyretic effects of
  methanol extract of Cariniana rubra stem bark in animal models"

  | 9        |
| "Anti-phase oscillation of Asian monsoons during the Younger
  Dryas period: Evidence from peat cellulose d^1^3C of Hani,
  Northeast China"

           | 9        |
| "Asian early Paleogene chronology and mammalian faunal turnover
  events"

  | 9        |
| "Attributes of the wood-boring trace fossil Asthenopodichnium in
  the Late Cretaceous Wahweap Formation, Utah, USA"
                                                                  |
  9        |
| "Biological and water chemistry controls on Sr/Ca, Ba/Ca, Mg/Ca
  and d^1^8O profiles in freshwater pearl mussel Hyriopsis sp."

  | 9        |
| "Biostratigraphical calibration of third order Ordovician
  sequences on the northern Gondwana platform"

          | 9        |
| "Changes in Glycosaminoglycan Synthesis and RPTB-   Expression in
   the Cortex and Hippocampus of Rats Due to Pilocarpine-induced
  Epilepsy"

  | 9        |
| "Climate control of sulfate influx to Lake Hovsgol, northwest
  Mongolia, during the last glacial-postglacial transition:
  Constraints from sulfur geochemistry"

           | 9        |
| "Collaborative Graduate Education across Multiple Campuses"

                                                                  |
  9        |
| "Comparison of carbonate C and O stable isotope records across
  the Jurassic/Cretaceous boundary in the Tethyan and Boreal
  Realms"

        | 9        |
| "Coupling of palaeoceanographic shifts and changes in marine
  reservoir ages off North Iceland through the last millennium"

      | 9        |
| "Distribution of large Emiliania huxleyi in the Central and
  Northeast Atlantic as a tracer of surface ocean dynamics during
   the last 25,000 years"

       | 9        |
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64 | "Early Eocene perissodactyls (Mammalia) from the upper Nomogen
     Formation of the Erlian Basin, Nei Mongol, China"
                                                                  |
     | 9       |
65 | "Etude des Homo erectus de Yunxian et de Nankin en Chine. Apport
     de l'imagerie 3D"
                                                                  |
     9       |
66 | "Global radiolarian zonation for the Pliensbachian, Toarcian and
     Aalenian"
                                                                  |
     9       |
67 | "High prevalence of unusual genotypes of Toxoplasma gondii
     infection in pork meat samples from Erechim, Southern Brazil"
                                                                  |
          | 9       |
68 | "Hydrocarbon seeps from close to the Jurassic-Cretaceous boundary
     , Svalbard"
                                                                  |
     9       |
69 | "In vitro and in vivo antiproliferative activity of Calotropis
     procera stem extracts"
                                                                  |
     | 9       |
70 | "Intense storm activity during the Little Ice Age on the French
     Mediterranean coast"
                                                                  |
     | 9       |
71 | "Late Quaternary (Weichselian) alluvial history and neotectonic
     control on fluvial landscape development in the southern Koros
     plain, Hungary"
                                                                  |
     | 9       |
72 | "Palaeoenvironmental changes in the Padul Basin (Granada, Spain)
     over the last 1Ma based on the biomarker content"
                                                                  |
     9       |
73 | "Petrographic and isotopic evidence for Holocene long-term
     climate change and shorter-term environmental shifts from a
     stalagmite from the Serra do Courel of northwestern Spain, and
     implications for climatic history across Europe and the
     Mediterranean" | 9       |
74 | "Predation on Holocene ostracods of the Donana National Park (SW
     Spain)"
                                                                  |
     9       |
75 | "Production, purification and characterization of a thermostable
     beta -1,3-glucanase (laminarinase) produced by Moniliophthora
     perniciosa"
                                                                  |
     | 9       |
76 | "Role of renin-angiotensin system in development of heart failure
     induced by myocardial infarction in rats"
```

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                                                                            |
    9          |
| "Surface Microstructures of the Microbialite Around Permo−
   Triassic Boundary, NE Sichuan, China"


           | 9          |
| "The Holocene vertebrate fauna from Guenfouda site, Eastern
   Morocco"


         | 9          |
| "Triassic Evolution of the Yangtze Platform in Guizhou Province,
   People's Republic of China"

                                                                            |
    9          |
−−
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Listing 1.8: Resultado en formato *TXT*

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      </binding>
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```
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```

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      </binding>
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    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Attributes of the wood-boring trace fossil
    Asthenopodichnium in the Late Cretaceous Wahweap Formation,
    Utah, USA</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Biological and water chemistry controls on Sr/Ca,
    Ba/Ca, Mg/Ca and d^1^8O profiles in freshwater pearl mussel
    Hyriopsis sp.</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Biostratigraphical calibration of third order
    Ordovician sequences on the northern Gondwana platform</literal
    >
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
```

```
      <binding name="title">
        <literal>Changes in Glycosaminoglycan Synthesis and RPTB-
     Expression in the Cortex and Hippocampus of Rats Due to
    Pilocarpine-induced Epilepsy</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Climate control of sulfate influx to Lake Hovsgol,
     northwest Mongolia, during the last glacial-postglacial
    transition: Constraints from sulfur geochemistry</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Collaborative Graduate Education across Multiple
    Campuses</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Comparison of carbonate C and O stable isotope
    records across the Jurassic/Cretaceous boundary in the Tethyan
    and Boreal Realms</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Coupling of palaeoceanographic shifts and changes
    in marine reservoir ages off North Iceland through the last
    millennium</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Distribution of large Emiliania huxleyi in the
    Central and Northeast Atlantic as a tracer of surface ocean
    dynamics during the last 25,000years</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
```

```
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Early Eocene perissodactyls (Mammalia) from the upper Nomogen Formation of the Erlian Basin, Nei Mongol, China</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Etude des Homo erectus de Yunxian et de Nankin en Chine. Apport de l'imagerie 3D</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Global radiolarian zonation for the Pliensbachian, Toarcian and Aalenian</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>High prevalence of unusual genotypes of Toxoplasma gondii infection in pork meat samples from Erechim, Southern Brazil</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Hydrocarbon seeps from close to the Jurassic–Cretaceous boundary, Svalbard</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>In vitro and in vivo antiproliferative activity of Calotropis procera stem extracts</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer">9</literal>
```

```
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Intense storm activity during the Little Ice Age
    on the French Mediterranean coast</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Late Quaternary (Weichselian) alluvial history and
     neotectonic control on fluvial landscape development in the
    southern Koros plain, Hungary</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Palaeoenvironmental changes in the Padul Basin (
    Granada, Spain) over the last 1Ma based on the biomarker
    content</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Petrographic and isotopic evidence for Holocene
    long-term climate change and shorter-term environmental shifts
    from a stalagmite from the Serra do Courel of northwestern
    Spain, and implications for climatic history across Europe and
    the Mediterranean</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Predation on Holocene ostracods of the Donana
    National Park (SW Spain)</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Production, purification and characterization of a
     thermostable beta -1,3-glucanase (laminarinase) produced by
    Moniliophthora perniciosa</literal>
```

```
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Role of renin-angiotensin system in development of
     heart failure induced by myocardial infarction in rats</
    literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Surface Microstructures of the Microbialite Around
     Permo-Triassic Boundary, NE Sichuan, China</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>The Holocene vertebrate fauna from Guenfouda site,
     Eastern Morocco</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="title">
        <literal>Triassic Evolution of the Yangtze Platform in
    Guizhou Province, People's Republic of China</literal>
      </binding>
      <binding name="authors">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
  </results>
</sparql>
```

Listing 1.9: Resultado en formato *SRX*

1.4. Obtener los 10 autores que más artículos firman por orden decreciente de número de artículos firmados.

```
SELECT ?name (COUNT (?article) AS ?articles)
WHERE
```

```
{
    ?pub dcterms:type ?article .
    ?article rdfs:label "article" .

    ?pub dcterms:creator ?creator .
    ?creator rdfs:label ?name .
}
GROUP BY ?name
ORDER BY DESC(?articles)
LIMIT 10
```

Listing 1.10: Consulta SPARQL

```
-------------------------------
| name                | articles |
===============================
| "Wang, Y."          | 16       |
| "Utescher, T."      | 12       |
| "Kellner, A.W.A."   | 10       |
| "Csiki, Z."         | 9        |
| "Dean, W. E."       | 9        |
| "Korn, D."          | 9        |
| "Liu, J."           | 9        |
| "Mosbrugger, V."    | 9        |
| ""                  | 8        |
| "Grigorescu, D."    | 8        |
-------------------------------
```

Listing 1.11: Resultado en formato *TXT*

```
<?xml version="1.0"?>
<sparql xmlns="http://www.w3.org/2005/sparql-results#">
  <head>
    <variable name="name"/>
    <variable name="articles"/>
  </head>
  <results>
    <result>
      <binding name="name">
        <literal>Wang, Y.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">16</literal>
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal>Utescher, T.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">12</literal>
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal>Kellner, A.W.A.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">10</literal>
```

```
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal>Csiki, Z.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal>Dean, W. E.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal>Korn, D.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal>Liu, J.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal>Mosbrugger, V.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">9</literal>
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal></literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
    ">8</literal>
      </binding>
    </result>
    <result>
      <binding name="name">
        <literal>Grigorescu, D.</literal>
      </binding>
      <binding name="articles">
        <literal datatype="http://www.w3.org/2001/XMLSchema#integer
```

```
    ">8</literal>
86        </binding>
87      </result>
88    </results>
89 </sparql>
```

Listing 1.12: Resultado en formato *SRX*

Consultas remotas a la *URL* de *DBpedia*

Esta consulta *SPARQL* buscaremos las universidades españolas que aparecen en la DBpedia mostrando su nombre en español y para aquellas que tiene el rector, mostrarlo también. El *endpoint* de la *DBpedia* a utilizar se corresponde con la inglesa y no la española.

```
PREFIX dbo: <http://dbpedia.org/ontology/>
PREFIX dbr: <http://dbpedia.org/resource/>

select ?university ?rector
where {
    ?x dbo:type dbr:Public_university .
    ?x dbo:country dbr:Spain .
    ?x rdfs:label ?university .

    optional {
        ?x dbo:rector ?rector .
    }

    filter(langMatches(lang(?university),"es")) .
}
```

Listing 2.1: Consulta SPARQL

```
--
    ------------------------------------------------------------------------------------------------------------
| university                                                | rector
                                                          |
==================================================================================================================
| "Universidad Nacional de Educaci n a Distancia"@es | <http://
    dbpedia.org/resource/Alejandro_Tiana_Ferrer>     |
| "Universidad Carlos III de Madrid"@es              | <http://
    dbpedia.org/resource/Juan_Romo>                  |
| "Universidad Rey Juan Carlos"@es                   | <http://
    dbpedia.org/resource/Fernando_Su rez_Bilbao>     |
| "Universidad de Alcal "@es                         | <http://
    dbpedia.org/resource/Dr._Fernando_Galv n>        |
| "Universidad de Murcia"@es                         |
                                                          |
| "Universidad Aut noma de Madrid"@es                |
                                                          |
| "Universidad de Valladolid"@es                     |
                                                          |
| "Universidad Polit cnica de Valencia"@es           |
                                                          |
| "Universidad Pablo de Olavide"@es                  |
                                                          |
```

```
| "Universidad de Huelva"@es                                    |
                                                                |
| "Universidad de M laga"@es                                     |
                                                                 |
| "Universidad de Gerona"@es                                     | <http://
    dbpedia.org/resource/Sergi_Bonet>                          |
| "Universidad de Barcelona"@es                                  |
                                                                |
| "Universidad de Las Palmas de Gran Canaria"@es                 |
                                                                |
| "Universidad de La Coru a"@es                                   |
                                                                 |
| "Universidad de Burgos"@es                                     |
                                                                |
| "Universidad de Castilla-La Mancha"@es                         |
                                                                |
| "Universidad de Santiago de Compostela"@es                     |
                                                                |
| "Universidad P blica de Navarra"@es                             |
                                                                 |
| "Universidad de Oviedo"@es                                     | <http://
    dbpedia.org/resource/Vicente_Gotor_Santamar a> |
| "Universidad de Salamanca"@es                                  |
                                                                |
| "Universidad de Sevilla"@es                                    |
                                                                |
| "Universidad de La Laguna"@es                                  |
                                                                |
--
```

Listing 2.2: Resultado en formato *TXT*

```
<?xml version="1.0"?>
<sparql xmlns="http://www.w3.org/2005/sparql-results#">
  <head>
    <variable name="university"/>
    <variable name="rector"/>
  </head>
  <results>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad Nacional de Educaci n a
    Distancia</literal>
      </binding>
      <binding name="rector">
        <uri>http://dbpedia.org/resource/Alejandro_Tiana_Ferrer</
    uri>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad Carlos III de Madrid</
    literal>
      </binding>
      <binding name="rector">
        <uri>http://dbpedia.org/resource/Juan_Romo</uri>
      </binding>
    </result>
    <result>
      <binding name="university">
```

```
26          <literal xml:lang="es">Universidad Rey Juan Carlos</literal
    >
27        </binding>
28        <binding name="rector">
29          <uri>http://dbpedia.org/resource/Fernando_Su rez_Bilbao</
    uri>
30        </binding>
31      </result>
32      <result>
33        <binding name="university">
34          <literal xml:lang="es">Universidad de Alcal </literal>
35        </binding>
36        <binding name="rector">
37          <uri>http://dbpedia.org/resource/Dr._Fernando_Galv n</uri>
38        </binding>
39      </result>
40      <result>
41        <binding name="university">
42          <literal xml:lang="es">Universidad de Murcia</literal>
43        </binding>
44      </result>
45      <result>
46        <binding name="university">
47          <literal xml:lang="es">Universidad Aut noma de Madrid</
    literal>
48        </binding>
49      </result>
50      <result>
51        <binding name="university">
52          <literal xml:lang="es">Universidad de Valladolid</literal>
53        </binding>
54      </result>
55      <result>
56        <binding name="university">
57          <literal xml:lang="es">Universidad Polit cnica de Valencia
    </literal>
58        </binding>
59      </result>
60      <result>
61        <binding name="university">
62          <literal xml:lang="es">Universidad Pablo de Olavide</
    literal>
63        </binding>
64      </result>
65      <result>
66        <binding name="university">
67          <literal xml:lang="es">Universidad de Huelva</literal>
68        </binding>
69      </result>
70      <result>
71        <binding name="university">
72          <literal xml:lang="es">Universidad de M laga</literal>
73        </binding>
74      </result>
75      <result>
76        <binding name="university">
77          <literal xml:lang="es">Universidad de Gerona</literal>
78        </binding>
79        <binding name="rector">
80          <uri>http://dbpedia.org/resource/Sergi_Bonet</uri>
81        </binding>
82      </result>
```

```
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de Barcelona</literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de Las Palmas de Gran
    Canaria</literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de La Coru a</literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de Burgos</literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de Castilla-La Mancha</
    literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de Santiago de
    Compostela</literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad P blica de Navarra</
    literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de Oviedo</literal>
      </binding>
      <binding name="rector">
        <uri>http://dbpedia.org/resource/Vicente_Gotor_Santamar a
    </uri>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de Salamanca</literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de Sevilla</literal>
      </binding>
    </result>
    <result>
      <binding name="university">
        <literal xml:lang="es">Universidad de La Laguna</literal>
      </binding>
```

```
140       </result>
141     </results>
142 </sparql>
```

Listing 2.3: Resultado en formato *SRX*