

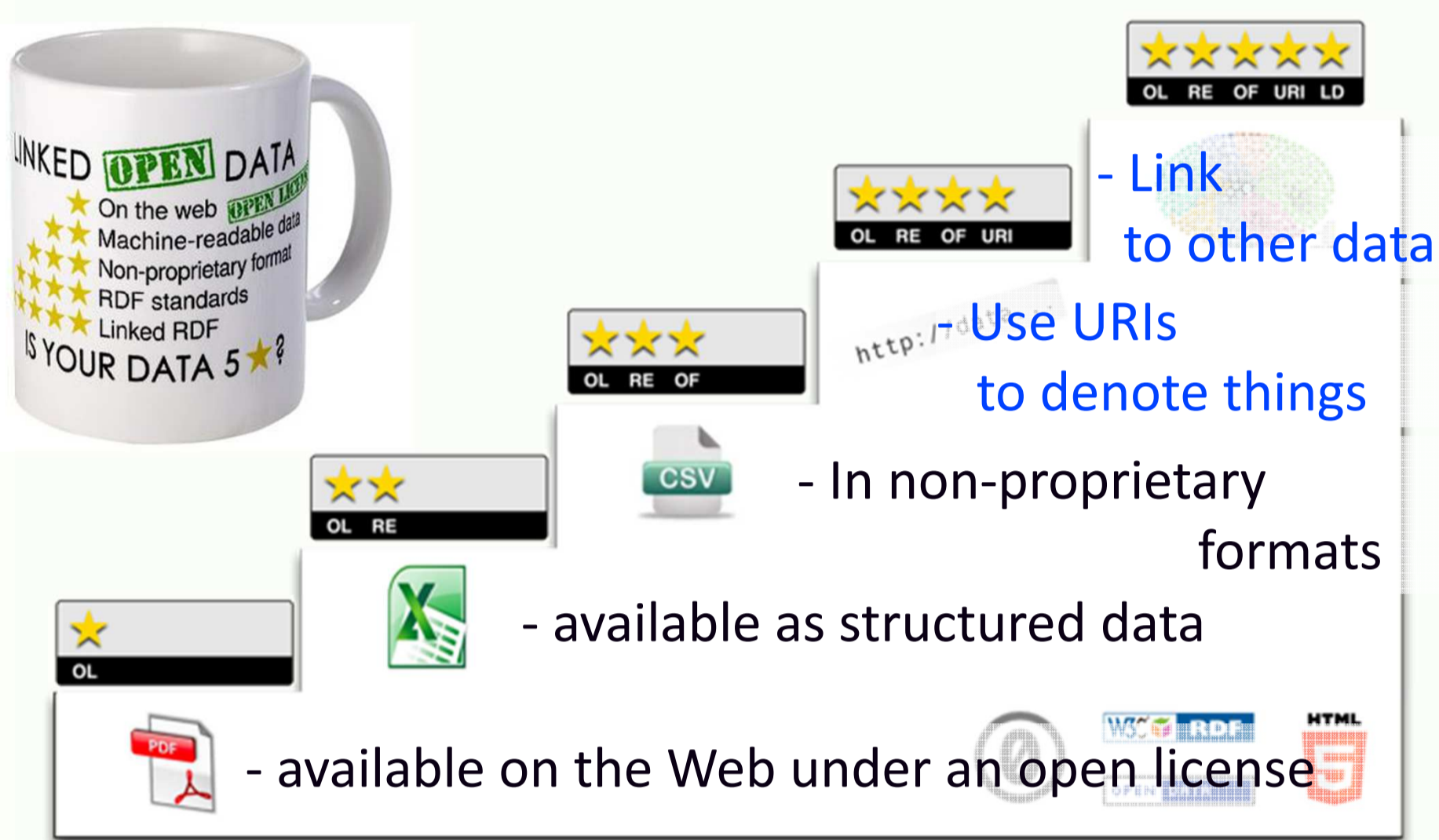
Integrate Japanese Red List into LOD of Species

Abstract

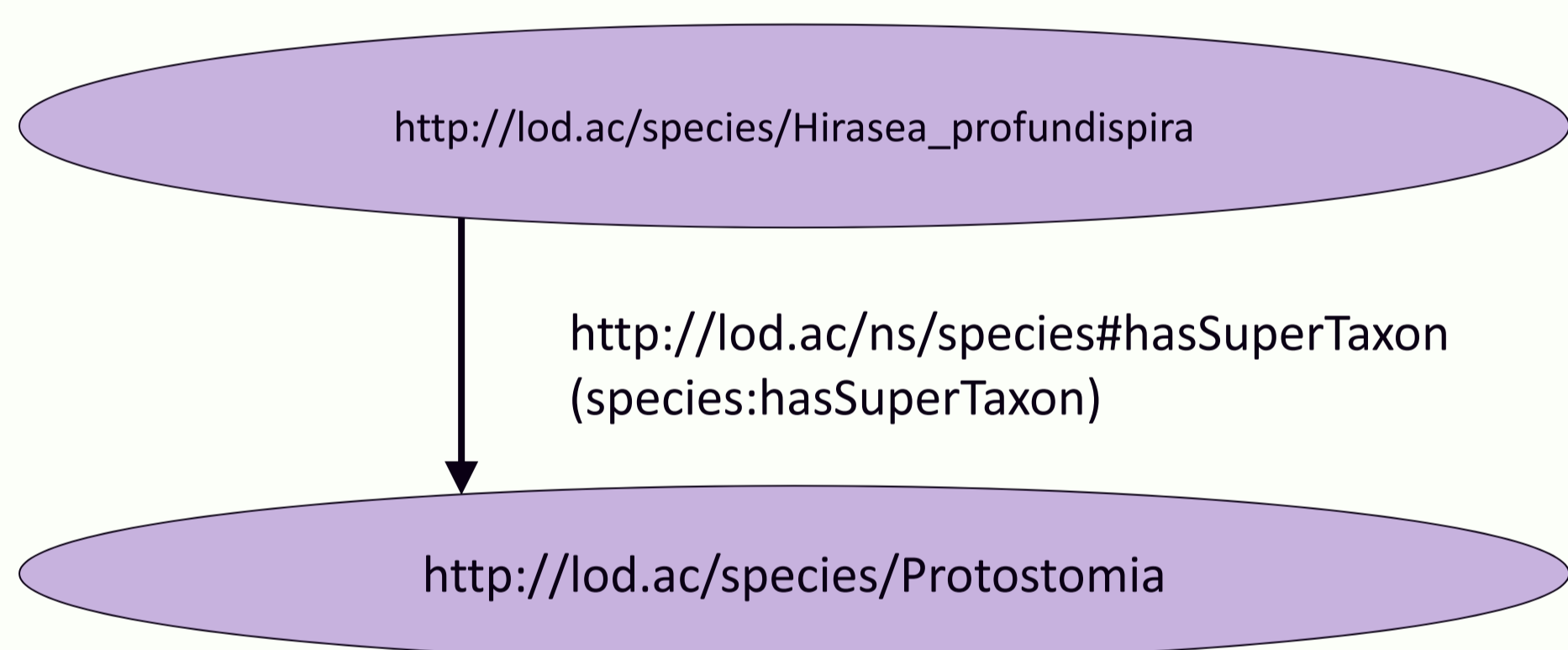
For saving biodiversity, sharing knowledge of species plays a key role via supporting policy making and local action. Red list is a catalogue of endangered species, that is, organisms on the risk of extinction in the world, countries, prefectures or so. Thankfully, Biodiversity Center of Japan, which is a part of Ministry of the Environment, provides Red List information of Japan and host information retrieval system on their website already. However, it is not easy to integrate that information with other resources. On the other hand, we have already constructed the data hub for biodiversity with Linked Open Data (LODAC species), core of which is a vast amount of taxonomic information of species. In this work, we defined RDF vocabulary for red list and added information of the Japanese Red List provided by Biodiversity Center of Japan to that data hub. Exploiting links in the data and query interface called SPARQL, we implemented information retrieval system on it also. This enables you to get detailed information on each endangered species.

Linked Open Data of Species

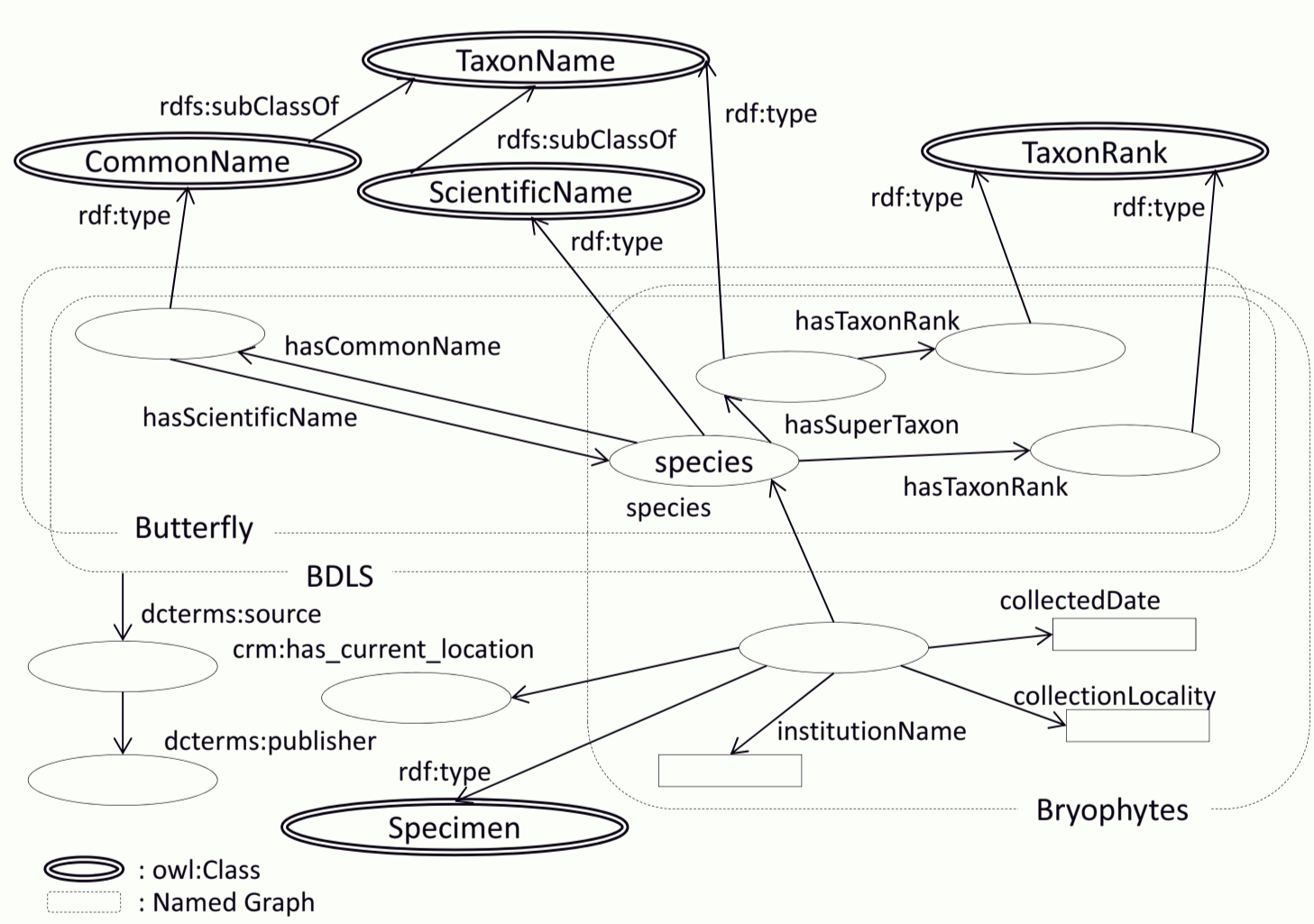
5 ★ Open Data



Data Description: RDF



Data model for species info



SPARQL

LODAC Species SPARQL Endpoint

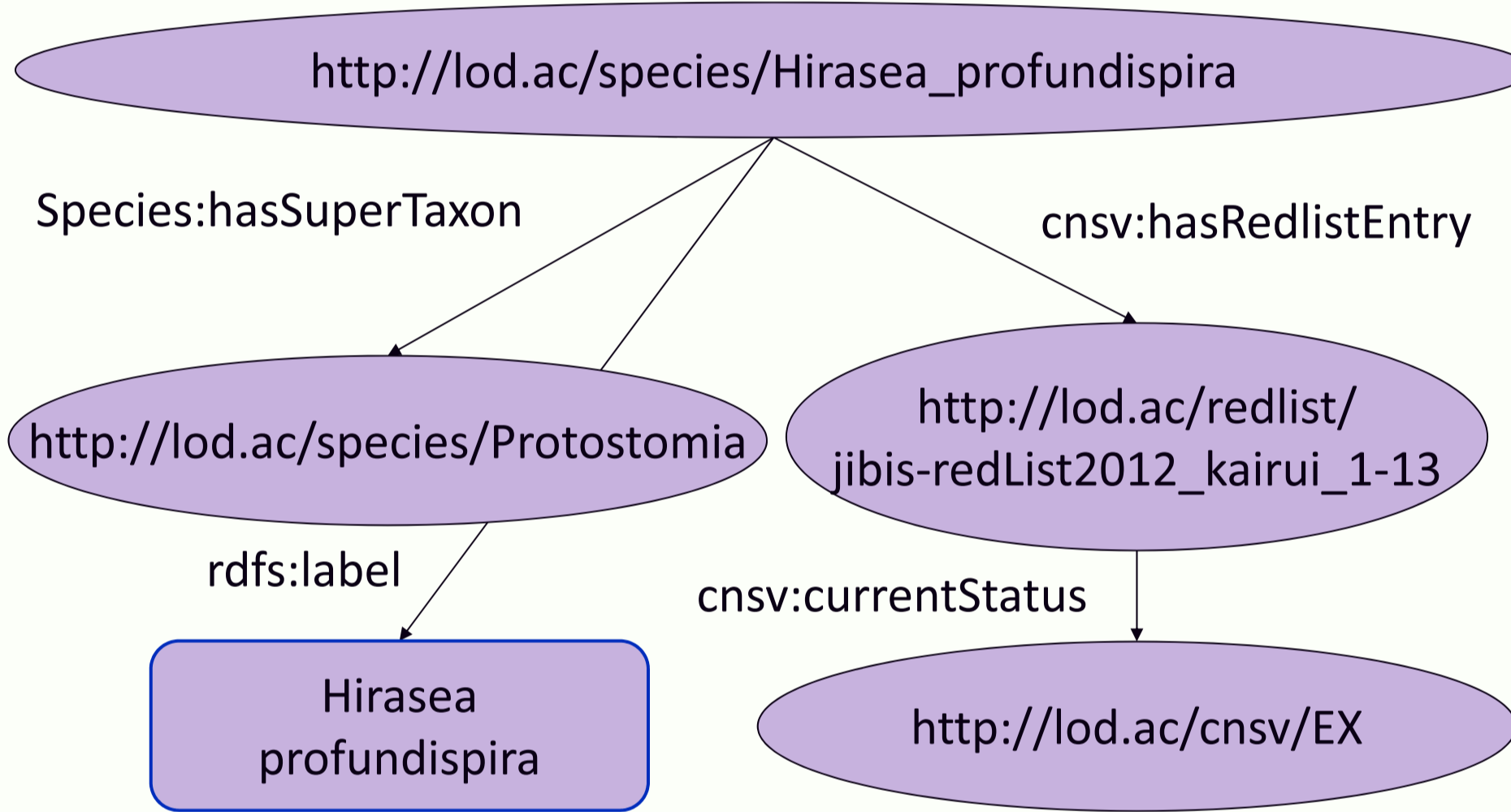
```

Query
- prefixes -
1 PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
2 PREFIX species: <http://lod.ac/ns/species#>
3 SELECT DISTINCT ?label ?url
4 WHERE
5 {
6   <http://lod.ac/species/Papilio_xuthus> species:hasSuperTaxon ?o .
7   ?o species:hasTaxonRank <http://lod.ac/species/Family> .
8   ?o species:hasSuperTaxon ?o .
9   ?o species:hasTaxonRank ?rank .
10  ?o species:hasNCBIPage ?url .
11  ?o rdfs:label ?label .
12 }
LIMIT 200
    
```

SPARQL Query Results

label	url
Graphium	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=45272
Graphium	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=76204
Graphium	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=159536
Parnassius	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=42291
Parnassius	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=447236
Sericoius	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=76210
Graphium agamemnon	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=132701
Graphium doston	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=76206
Luehdorfia japonica	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=76208
Luehdorfia puzioi yessoensis	http://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?mode=Info&id=81073

Integration



Usage

Description

Japanese Red List

Red List Resources

カテゴリー,分類群,和名,学名
 絶滅 (EX),貝類,チヂジヤママキサゴ,Ogasawarana chichijimana
 絶滅 (EX),貝類,ソロバシヤママキサゴ,Ogasawarana habei
 絶滅 (EX),貝類,アカビシヤママキサゴ,Ogasawarana rex
 絶滅 (EX),貝類,リュウキュウカワザンシヨウ,Assimineia sp. D
 絶滅 (EX),貝類,ヒラクボエンザカイ,Hirasea diplomphalus latispira
 絶滅 (EX),貝類,コシタカエンザカイ,Hirasea eutheca
 絶滅 (EX),貝類,ソコカドエンザカイ,Hirasea goniobasis
 絶滅 (EX),貝類,ツヤエンザカイ,Hirasea hypolia
 絶滅 (EX),貝類,オオエンザカイ,Hirasea major
 絶滅 (EX),貝類,ヒラマキエンザカイ,Hirasea planulata planulata
 絶滅 (EX),貝類,コダマエンザカイ,Hirasea profundispira

3. 改訂版レッドリスト

〈鳥類 108種〉

絶滅寸前種(8種)

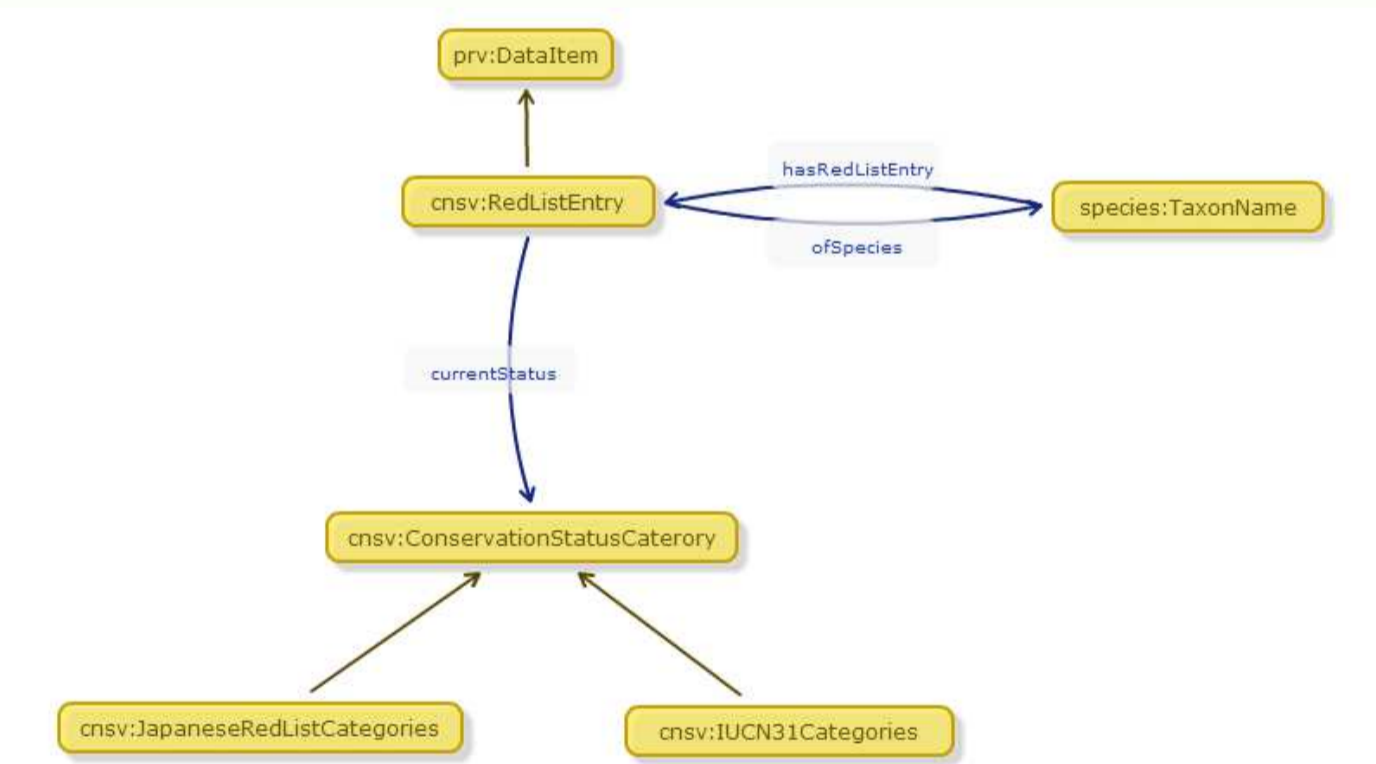
ミゾゴイ、イヌワシ、オオハクチョウ、ウズラ、カムリウミスズメ、カラスバト、ブッポウソウ

<http://lod.ac/species/クロサギ>

絶滅危惧種(48種)

ヒメクロウミツバメ、ヨシゴイ、クロサギ、オコウノトリ、オクロガモ、ミサゴ、ハチオオタカ、ツミ、サシバ、クマタカ、ハイロチュウヒ、チュウヒ、ハヤブサ、△

Data model for Red List info



Search Engine →

LODAC Species Search

44 Items Found. 1 2 3 4 > >>

white-backed munia
http://lod.ac/species/white-backed_munia

white-rumped munia
http://lod.ac/species/white-rumped_munia

black-and-white munia
http://lod.ac/species/black-and-white_munia

Influenza A virus (A/munia/Hong Kong/2454/2006(H5N1))
<http://lod.ac/ncbi/407797>

Influenza A virus (A/munia/Hong Kong/2454/2006(H5N1))
http://lod.ac/species/influenza_A_virus_A_munia_Hong_Kong_2454_2006H5N1