

CDP-query__data

May 3, 2021

1 Querying the CDP

Import some stuff

```
[1]: import requests
import pandas as pd

from pandas import json_normalize
```

Execute a query against the [dadis-link](#) endpoint:

```
[2]: response = requests.get("https://api.image2020genebank.eu/backend/dadis_link/")
```

Get results as a json object. Extract the results key:

```
[3]: results = response.json()['results']
```

Convert data to a dataframe:

```
[4]: data = pd.DataFrame(results)
data
```

```
[4]:                                     url \
0 https://api.image2020genebank.eu/backend/dadis...
1 https://api.image2020genebank.eu/backend/dadis...
2 https://api.image2020genebank.eu/backend/dadis...
3 https://api.image2020genebank.eu/backend/dadis...
4 https://api.image2020genebank.eu/backend/dadis...
5 https://api.image2020genebank.eu/backend/dadis...
6 https://api.image2020genebank.eu/backend/dadis...
7 https://api.image2020genebank.eu/backend/dadis...
8 https://api.image2020genebank.eu/backend/dadis...
9 https://api.image2020genebank.eu/backend/dadis...

                                     species      supplied_breed \
0 {'scientific_name': 'Ovis aries', 'common_name...  Black Blazed sheep
1 {'scientific_name': 'Ovis aries', 'common_name...    Veluwe heath
2 {'scientific_name': 'Ovis aries', 'common_name...          Mouflon
3 {'scientific_name': 'Ovis aries', 'common_name...    Kempen heath
```

```

4 {'scientific_name': 'Ovis aries', 'common_name...      Flevolander
5 {'scientific_name': 'Ovis aries', 'common_name...      Blue Texel
6 {'scientific_name': 'Oryctolagus cuniculus', '...'      Thrianta
7 {'scientific_name': 'Oryctolagus cuniculus', '...'      Sallander
8 {'scientific_name': 'Oryctolagus cuniculus', '...'      Hulstlander
9 {'scientific_name': 'Oryctolagus cuniculus', '...'      Havana

      country iso3      most_common_name  transboundary_name  other_name  \
0 Netherlands NLD      Zwartbles  Black blazed sheep  []
1 Netherlands NLD      Veluwe Heideschaap  Veluwe Heath  []
2 Netherlands NLD      Moeflon  Mouflon  []
3 Netherlands NLD  Kempische Heideschaap  Kempen Heath  [-]
4 Netherlands NLD      Flevolander  []
5 Netherlands NLD      Blauwe Texelaar  Blue Texel  []
6 Netherlands NLD      Thrianta  []
7 Netherlands NLD      Sallander  []
8 Netherlands NLD      Hulstlander  []
9 Netherlands NLD      Havana  Havana  []

      dadis_url  is_custom
0 https://fao-dadis-breed-detail.firebaseio.com...  False
1 https://fao-dadis-breed-detail.firebaseio.com...  False
2 https://fao-dadis-breed-detail.firebaseio.com...  False
3 https://fao-dadis-breed-detail.firebaseio.com...  False
4 https://fao-dadis-breed-detail.firebaseio.com...  False
5 https://fao-dadis-breed-detail.firebaseio.com...  False
6 https://fao-dadis-breed-detail.firebaseio.com...  False
7 https://fao-dadis-breed-detail.firebaseio.com...  False
8 https://fao-dadis-breed-detail.firebaseio.com...  False
9 https://fao-dadis-breed-detail.firebaseio.com...  False

```

Similar as before but normalizing results (ie: flattening nested objects):

```
[5]: json_normalize(results)
```

```

[5]:      url      supplied_breed  \
0 https://api.image2020genebank.eu/backend/dadis...  Black Blazed sheep
1 https://api.image2020genebank.eu/backend/dadis...  Veluwe heath
2 https://api.image2020genebank.eu/backend/dadis...  Mouflon
3 https://api.image2020genebank.eu/backend/dadis...  Kempen heath
4 https://api.image2020genebank.eu/backend/dadis...  Flevolander
5 https://api.image2020genebank.eu/backend/dadis...  Blue Texel
6 https://api.image2020genebank.eu/backend/dadis...  Thrianta
7 https://api.image2020genebank.eu/backend/dadis...  Sallander
8 https://api.image2020genebank.eu/backend/dadis...  Hulstlander
9 https://api.image2020genebank.eu/backend/dadis...  Havana

```

	country	iso3	most_common_name	transboundary_name	other_name	\
0	Netherlands	NLD	Zwartbles	Black blazed sheep		[]
1	Netherlands	NLD	Veluwe Heideschaap	Veluwe Heath		[]
2	Netherlands	NLD	Moeflon	Mouflon		[]
3	Netherlands	NLD	Kempische Heideschaap	Kempen Heath		[-]
4	Netherlands	NLD	Flevolander			[]
5	Netherlands	NLD	Blauwe Texelaar	Blue Texel		[]
6	Netherlands	NLD	Thrianta			[]
7	Netherlands	NLD	Sallander			[]
8	Netherlands	NLD	Hulstlander			[]
9	Netherlands	NLD	Havana	Havanna		[]

	dadis_url	is_custom	\
0	https://fao-dadis-breed-detail.firebaseio.com...	False	
1	https://fao-dadis-breed-detail.firebaseio.com...	False	
2	https://fao-dadis-breed-detail.firebaseio.com...	False	
3	https://fao-dadis-breed-detail.firebaseio.com...	False	
4	https://fao-dadis-breed-detail.firebaseio.com...	False	
5	https://fao-dadis-breed-detail.firebaseio.com...	False	
6	https://fao-dadis-breed-detail.firebaseio.com...	False	
7	https://fao-dadis-breed-detail.firebaseio.com...	False	
8	https://fao-dadis-breed-detail.firebaseio.com...	False	
9	https://fao-dadis-breed-detail.firebaseio.com...	False	

	species.scientific_name	species.common_name
0	Ovis aries	Sheep
1	Ovis aries	Sheep
2	Ovis aries	Sheep
3	Ovis aries	Sheep
4	Ovis aries	Sheep
5	Ovis aries	Sheep
6	Oryctolagus cuniculus	Rabbit
7	Oryctolagus cuniculus	Rabbit
8	Oryctolagus cuniculus	Rabbit
9	Oryctolagus cuniculus	Rabbit

Try a different query. Subset data using filters, get only *Italian/DAD-IS* breeds:

```
[6]: response = requests.get("https://api.image2020genebank.eu/backend/dadis_link/?
    →country=Italy")
results = response.json()['results']
dadis_italian_breeds = json_normalize(results)
dadis_italian_breeds
```

```
[6]:          url  supplied_breed  country  \
0  https://api.image2020genebank.eu/backend/dadis...  Nero Siciliano  Italy
1  https://api.image2020genebank.eu/backend/dadis...  Mora Romagnola  Italy
```

```

2 https://api.image2020genebank.eu/backend/dadis... Cinta Senese Italy
3 https://api.image2020genebank.eu/backend/dadis... Casertana Italy

```

```

iso3 most_common_name transboundary_name \
0 ITA Nero Siciliano
1 ITA Mora Romagnola
2 ITA Cinta Senese
3 ITA Casertana Casertana

```

```

other_name \
0 [Nero delle Madonie, Nero dell'Etna, Nero dei ...
1 [Bruna romagnola, Castagnina, Forlivese, Bolog...
2 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
3 [Pelatella, Napoletana, Teanese]

```

```

dadis_url is_custom \
0 https://fao-dadis-breed-detail.firebaseio.com... False
1 https://fao-dadis-breed-detail.firebaseio.com... False
2 https://fao-dadis-breed-detail.firebaseio.com... False
3 https://fao-dadis-breed-detail.firebaseio.com... False

```

```

species.scientific_name species.common_name
0 Sus scrofa Pig
1 Sus scrofa Pig
2 Sus scrofa Pig
3 Sus scrofa Pig

```

1.1 Get Organisms data

Try to get italian *Cinta senese* from [organism endpoint](#)

```

[7]: response = requests.get("https://api.image2020genebank.eu/backend/organism/?
    ↳supplied_breed=Cinta+Senese").json()
results = []

while response['next']:
    results += response['results']
    response = requests.get(response['next']).json()

# add last items
results += response['results']
cinta_senese = json_normalize(results)
cinta_senese

```

```

[7]: data_source_id url \
0 SAMEA6877837 https://api.image2020genebank.eu/backend/organ...
1 SAMEA6877836 https://api.image2020genebank.eu/backend/organ...

```

2 SAMEA6877797 https://api.image2020genebank.eu/backend/organ...
3 SAMEA6877796 https://api.image2020genebank.eu/backend/organ...
4 SAMEA6877784 https://api.image2020genebank.eu/backend/organ...
5 SAMEA6877739 https://api.image2020genebank.eu/backend/organ...
6 SAMEA6877737 https://api.image2020genebank.eu/backend/organ...
7 SAMEA6877735 https://api.image2020genebank.eu/backend/organ...
8 SAMEA6877723 https://api.image2020genebank.eu/backend/organ...
9 SAMEA6877720 https://api.image2020genebank.eu/backend/organ...
10 SAMEA6877699 https://api.image2020genebank.eu/backend/organ...
11 SAMEA6877697 https://api.image2020genebank.eu/backend/organ...
12 SAMEA6877604 https://api.image2020genebank.eu/backend/organ...
13 SAMEA6877577 https://api.image2020genebank.eu/backend/organ...

	alternative_id	project	submission_title	material	\
0	858	IMAGE	Swine Italian local breeds	organism	
1	855	IMAGE	Swine Italian local breeds	organism	
2	862	IMAGE	Swine Italian local breeds	organism	
3	857	IMAGE	Swine Italian local breeds	organism	
4	856	IMAGE	Swine Italian local breeds	organism	
5	864	IMAGE	Swine Italian local breeds	organism	
6	854	IMAGE	Swine Italian local breeds	organism	
7	861	IMAGE	Swine Italian local breeds	organism	
8	863	IMAGE	Swine Italian local breeds	organism	
9	853	IMAGE	Swine Italian local breeds	organism	
10	859	IMAGE	Swine Italian local breeds	organism	
11	860	IMAGE	Swine Italian local breeds	organism	
12	851	IMAGE	Swine Italian local breeds	organism	
13	852	IMAGE	Swine Italian local breeds	organism	

	material_ontology	person_last_name	\
0	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
1	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
2	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
3	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
4	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
5	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
6	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
7	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
8	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
9	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
10	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
11	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
12	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	
13	http://purl.obolibrary.org/obo/OBI_0100026	[Pizzi]	

	person_email	person_affiliation	...	\
0	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...	

1	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
2	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
3	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
4	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
5	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
6	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
7	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
8	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
9	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
10	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
11	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
12	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...
13	[mailto:pizzi@ibba.cnr.it]	[IBBA-CNR]	...

	dadis.species.scientific_name	dadis.species.common_name	\
0	Sus scrofa	Pig	
1	Sus scrofa	Pig	
2	Sus scrofa	Pig	
3	Sus scrofa	Pig	
4	Sus scrofa	Pig	
5	Sus scrofa	Pig	
6	Sus scrofa	Pig	
7	Sus scrofa	Pig	
8	Sus scrofa	Pig	
9	Sus scrofa	Pig	
10	Sus scrofa	Pig	
11	Sus scrofa	Pig	
12	Sus scrofa	Pig	
13	Sus scrofa	Pig	

	dadis.supplied_breed	dadis.country	dadis.iso3	dadis.most_common_name	\
0	Cinta Senese	Italy	ITA	Cinta Senese	
1	Cinta Senese	Italy	ITA	Cinta Senese	
2	Cinta Senese	Italy	ITA	Cinta Senese	
3	Cinta Senese	Italy	ITA	Cinta Senese	
4	Cinta Senese	Italy	ITA	Cinta Senese	
5	Cinta Senese	Italy	ITA	Cinta Senese	
6	Cinta Senese	Italy	ITA	Cinta Senese	
7	Cinta Senese	Italy	ITA	Cinta Senese	
8	Cinta Senese	Italy	ITA	Cinta Senese	
9	Cinta Senese	Italy	ITA	Cinta Senese	
10	Cinta Senese	Italy	ITA	Cinta Senese	
11	Cinta Senese	Italy	ITA	Cinta Senese	
12	Cinta Senese	Italy	ITA	Cinta Senese	
13	Cinta Senese	Italy	ITA	Cinta Senese	

dadis.transboundary_name \

0
1
2
3
4
5
6
7
8
9
10
11
12
13

dadis.other_name \

0 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
1 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
2 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
3 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
4 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
5 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
6 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
7 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
8 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
9 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
10 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
11 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
12 [Cinta, Cinto, Cinto toscano, Cinturello umbro...
13 [Cinta, Cinto, Cinto toscano, Cinturello umbro...

dadis.dadis_url dadis.is_custom

0 https://fao-dadis-breed-detail.firebaseio.com... False
1 https://fao-dadis-breed-detail.firebaseio.com... False
2 https://fao-dadis-breed-detail.firebaseio.com... False
3 https://fao-dadis-breed-detail.firebaseio.com... False
4 https://fao-dadis-breed-detail.firebaseio.com... False
5 https://fao-dadis-breed-detail.firebaseio.com... False
6 https://fao-dadis-breed-detail.firebaseio.com... False
7 https://fao-dadis-breed-detail.firebaseio.com... False
8 https://fao-dadis-breed-detail.firebaseio.com... False
9 https://fao-dadis-breed-detail.firebaseio.com... False
10 https://fao-dadis-breed-detail.firebaseio.com... False
11 https://fao-dadis-breed-detail.firebaseio.com... False
12 https://fao-dadis-breed-detail.firebaseio.com... False
13 https://fao-dadis-breed-detail.firebaseio.com... False

[14 rows x 60 columns]

[]: