

# 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      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

```

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	Veluwse 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	<a href="https://api.image2020genebank.eu/backend/dadis...">https://api.image2020genebank.eu/backend/dadis...</a>	Cinta Senese	Italy
3	<a href="https://api.image2020genebank.eu/backend/dadis...">https://api.image2020genebank.eu/backend/dadis...</a>	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	<a href="https://fao-dadis-breed-detail.firebaseio.com...">https://fao-dadis-breed-detail.firebaseio.com...</a>		False	
1	<a href="https://fao-dadis-breed-detail.firebaseio.com...">https://fao-dadis-breed-detail.firebaseio.com...</a>		False	
2	<a href="https://fao-dadis-breed-detail.firebaseio.com...">https://fao-dadis-breed-detail.firebaseio.com...</a>		False	
3	<a href="https://fao-dadis-breed-detail.firebaseio.com...">https://fao-dadis-breed-detail.firebaseio.com...</a>		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
```

	data_source_id	url	\
0	SAMEA6877837	<a href="https://api.image2020genebank.eu/backend/organ...">https://api.image2020genebank.eu/backend/organ...</a>	
1	SAMEA6877836	<a href="https://api.image2020genebank.eu/backend/organ...">https://api.image2020genebank.eu/backend/organ...</a>	

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

	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	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
1	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
2	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
3	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
4	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
5	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
6	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
7	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
8	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
9	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
10	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
11	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
12	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[Pizzi]	
13	<a href="http://purl.obolibrary.org/obo/OBI_0100026">http://purl.obolibrary.org/obo/OBI_0100026</a>	[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]

[ ]:

