

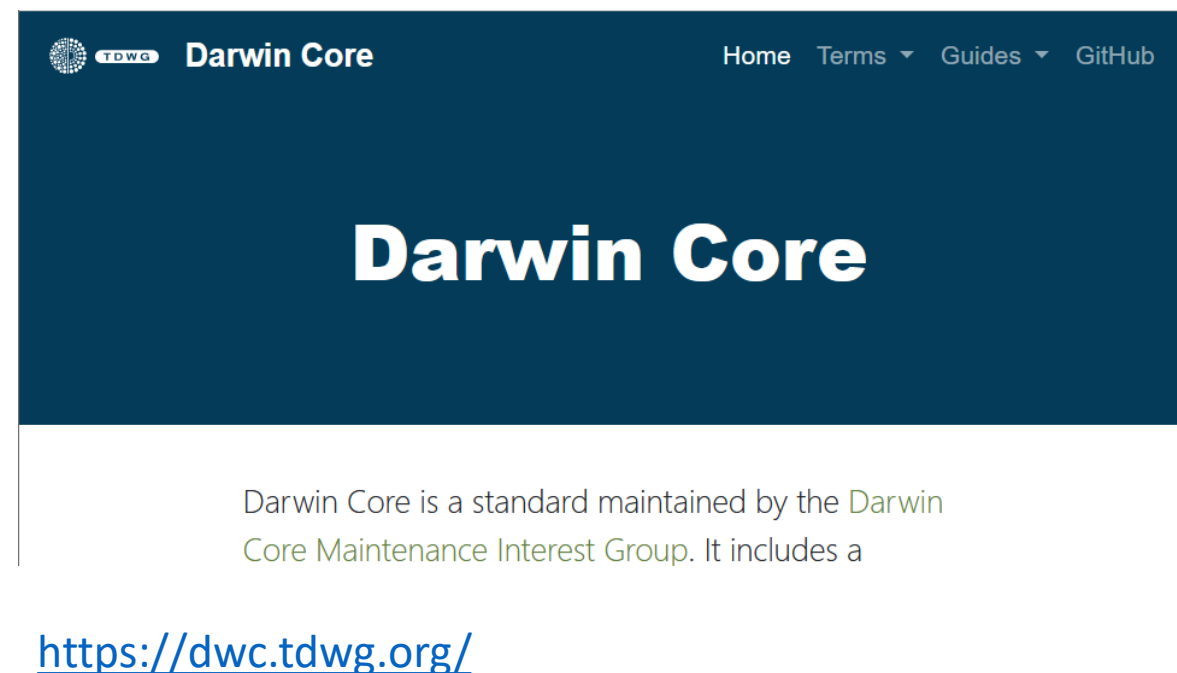


Darwin Core

A brief introduction

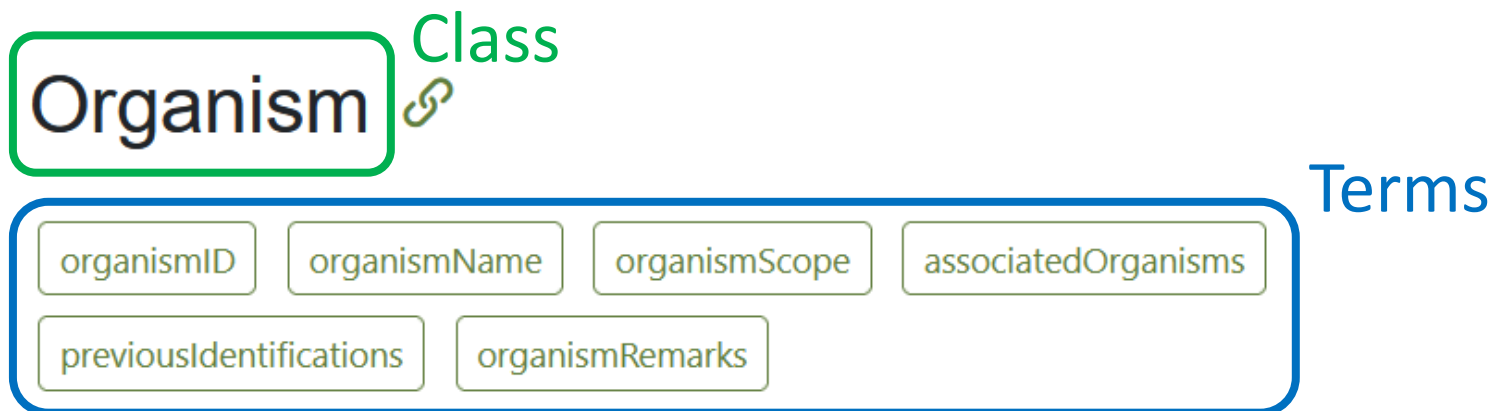
What is Darwin Core?

- A **standard**, „intended to facilitate the sharing of information about biological diversity“.
- A glossary of **terms**.

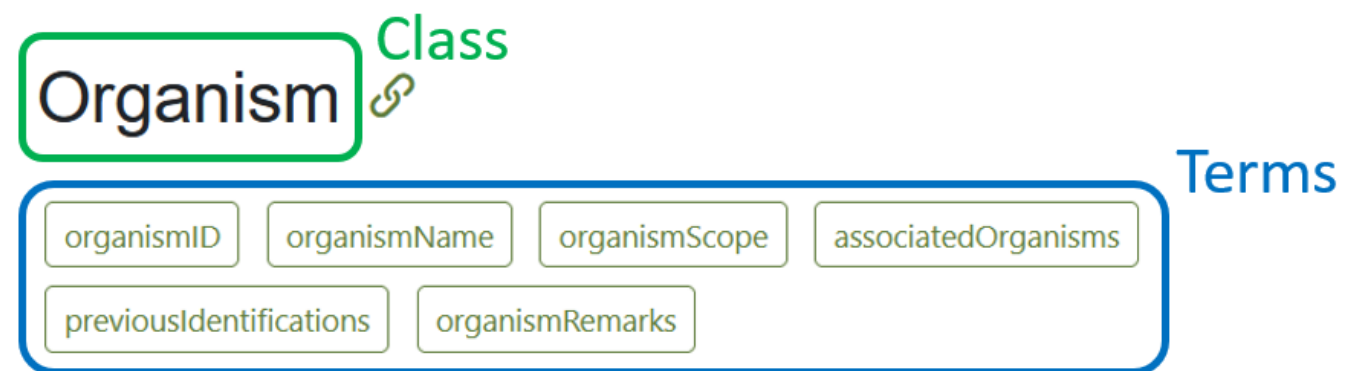
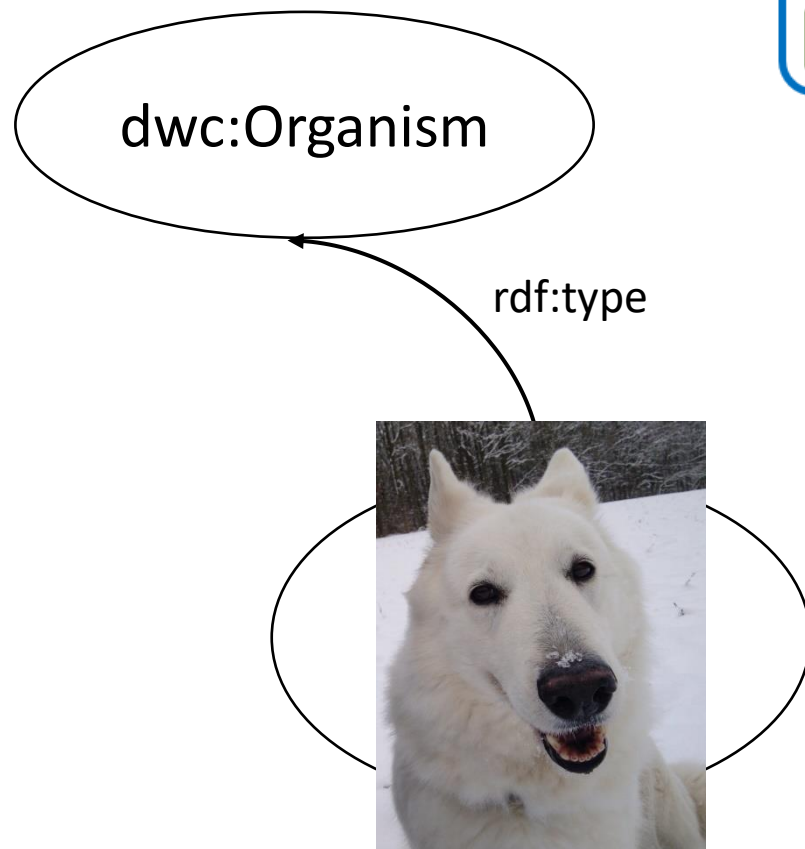


Classes and Terms

- There are 10 „main“ **classes**: Record-level, Occurrence, Organism, MaterialSample, Event, Location, GeologicalContext, Identification, Taxon and MeasurementOrFact.
- Each class has a set of **terms** which describe an instance of that class.



Organism Class	
Identifier	http://rs.tdwg.org/dwc/terms/Organism
Definition	A particular organism or defined group of organisms considered to be taxonomically homogeneous.
Comments	Instances of the dwc:Organism class are intended to facilitate linking one or more dwc:Identification instances to one or more dwc:Occurrence instances. Therefore, things that are typically assigned scientific names (such as viruses, hybrids, and lichens) and aggregates whose dwc:Occurrences are typically recorded (such as packs, clones, and colonies) are included in the scope of this class.
Examples	A specific bird. A specific wolf pack. A specific instance of a bacterial culture.



dwc:Organism

rdf:type



dwc:organismName

Lumi

Organism ^{Class}

Terms

organismID	organismName	organismScope	associatedOrganisms
previousIdentifications	organismRemarks		

Darwin Core Classes

Material Sample

Definition: A physical result of a sampling event. Typically the sample will either be preserved or destructively processed.

Example: The content of a pitfall trap that will be subjected to DNA sequencing. An organism preserved in a collection.

Location

Definition: A named place or spatial region.

Example: Fabrikschleichach. 13.56002312, 48.90602009.

Geological Context

Definition: Geological information that qualifies a place or region.

Example: A lithostratigraphic layer.

Organism

Definition: An individual organism or a group of (taxonomically homogenous) organisms.

Example: A specific tree, called „Donareiche“. A specific swarm of bees, living next door.

Identification

Definition: An assignment of a taxon to an organism.

Example: A trapped butterfly was identified as *Aglais io*.

Taxon

Definition: A group of organisms that taxonomists consider to form a unit.

Example: *Turdus merula* Linnaeus, 1758.

Occurrence

Definition: An existence of an organism at a particular place at a particular time.

Example: A bat at Fabrikschleichach at 22:30 on 2023-06-30. A group of beeches at patch B06EAB136 on 2022-07-12.

Event

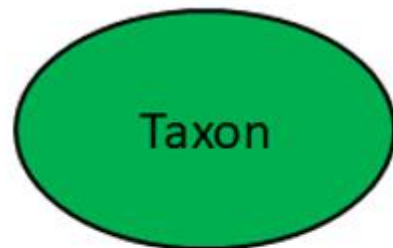
Definition: An action that took place at some location during some time.

Example: The installation of soundboxes in Canande / Ecuador from October till November 2022; The taking of soil samples at patch H09CCC184 in Hunsrück on 2022-05-23.

Measurement Or Fact

Definition: A measurement or fact.

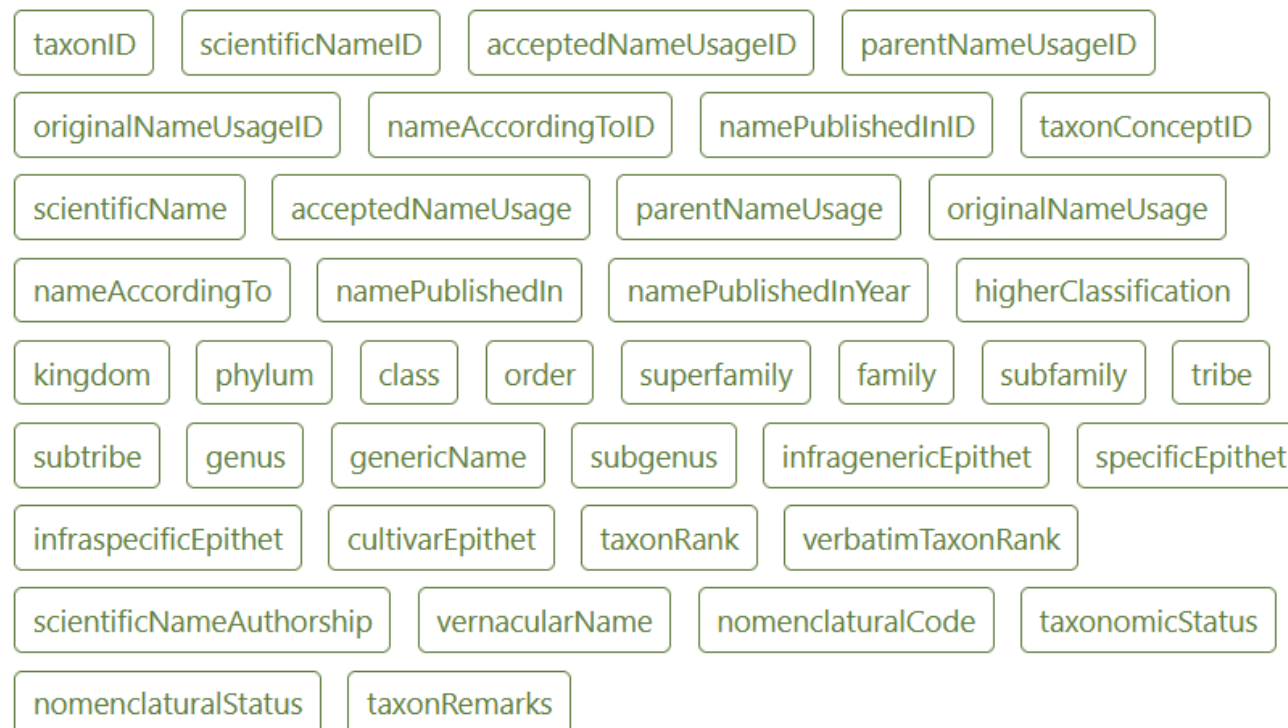
Example: The height of a tree in m. The biomass of a tree in kg.

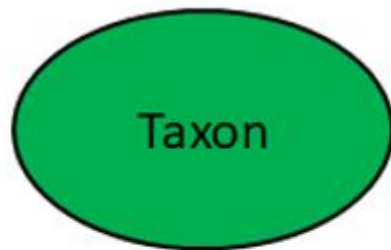


Definition: A group of organisms that taxonomists consider to form a unit.

Example: *Turdus merula*
Linnaeus, 1758.

Taxon



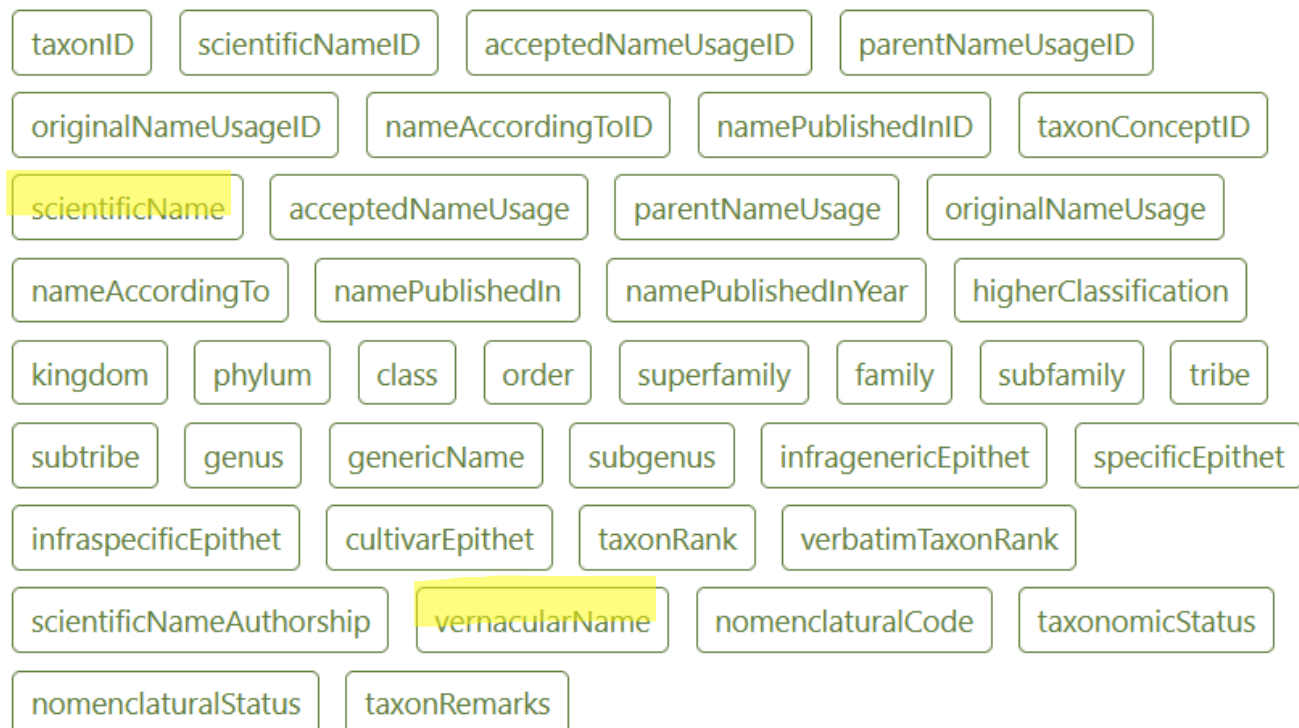


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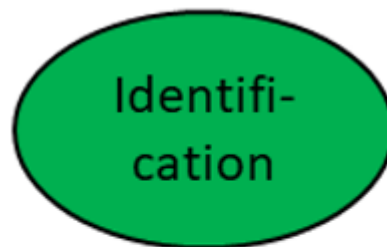
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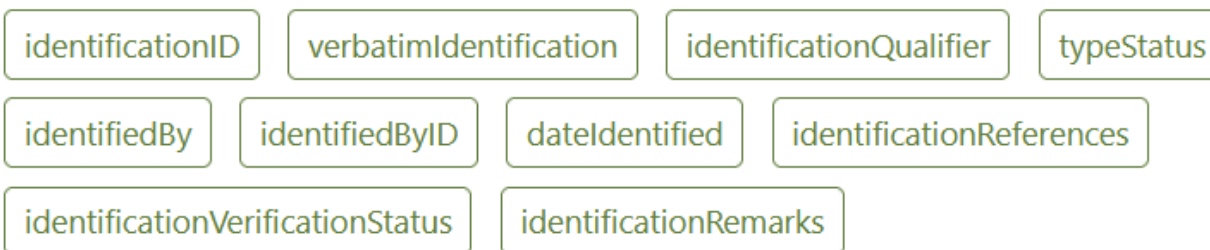
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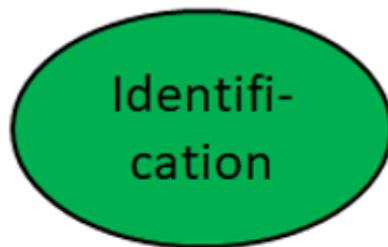


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Example: A trapped butterfly was identified as *Aglaia io*.

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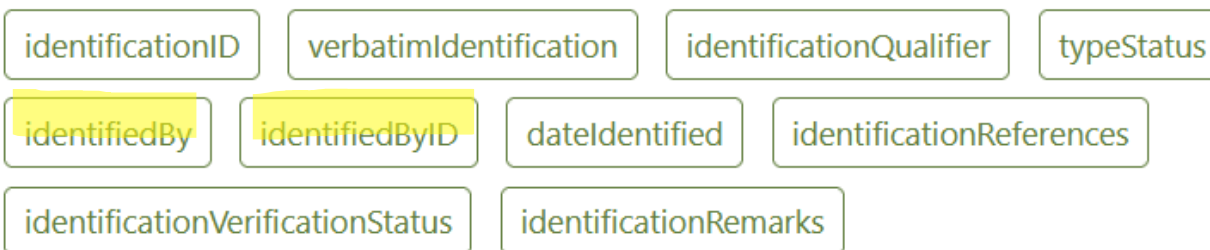




Definition: An assignment of a taxon to an organism.

Example: A trapped butterfly was identified as *Aglais io*.

Identification



	A	B	C	D	E
1	organismName	vernacularName	scientificName	identifiedBy	identifiedByID
2	Lumi	White Shepherd	Canis lupus	Sonja Kümmer	https://orcid.org/0000-0002-8954-0200
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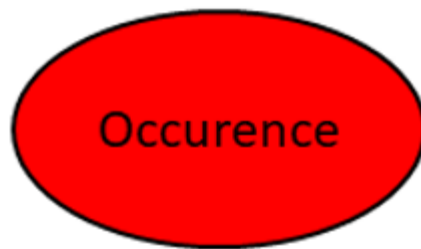
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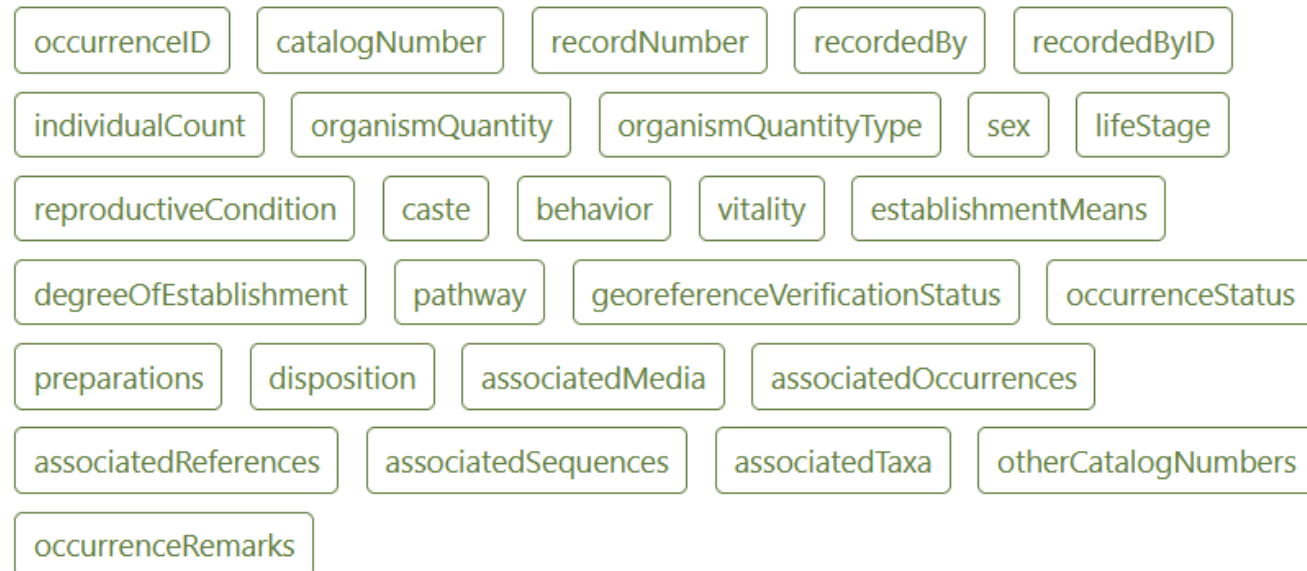
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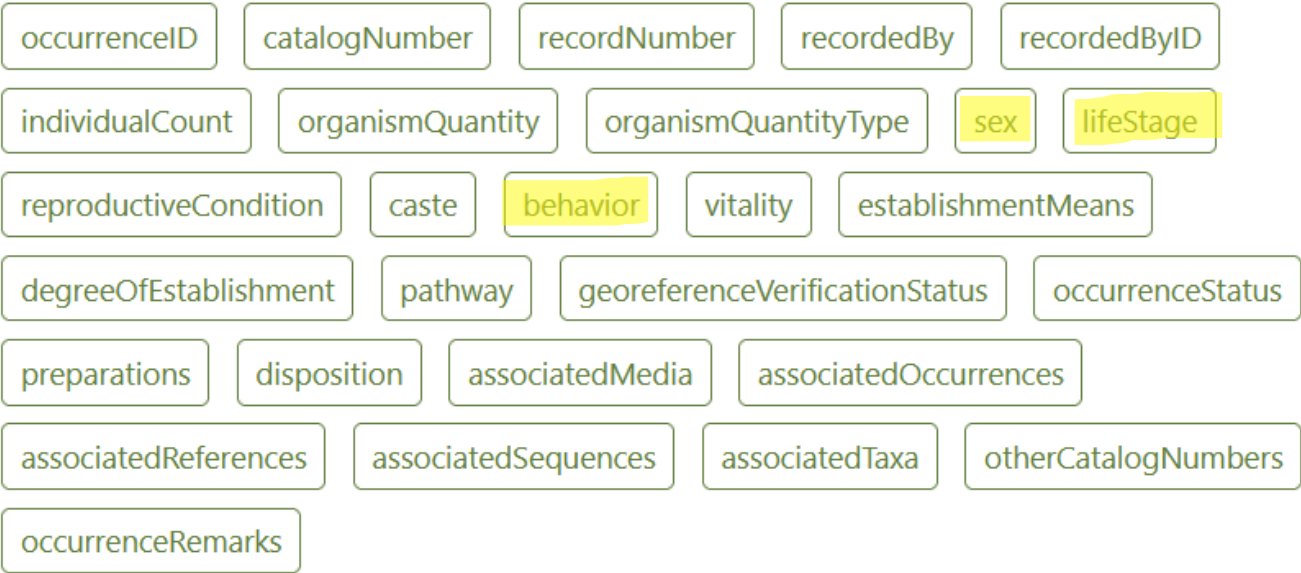




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Occurrence



	A	B	C	D	E	F	G	H
1	organismName	vernacularName	scientificName	identifiedBy	identifiedByID	sex	lifeStage	behavior
2	Lumi	White Shepherd	Canis lupus	Sonja Kümmer	https://orcid.org/0000-0002-8954-0200	female	adult	sleeping
3								
4								
5								

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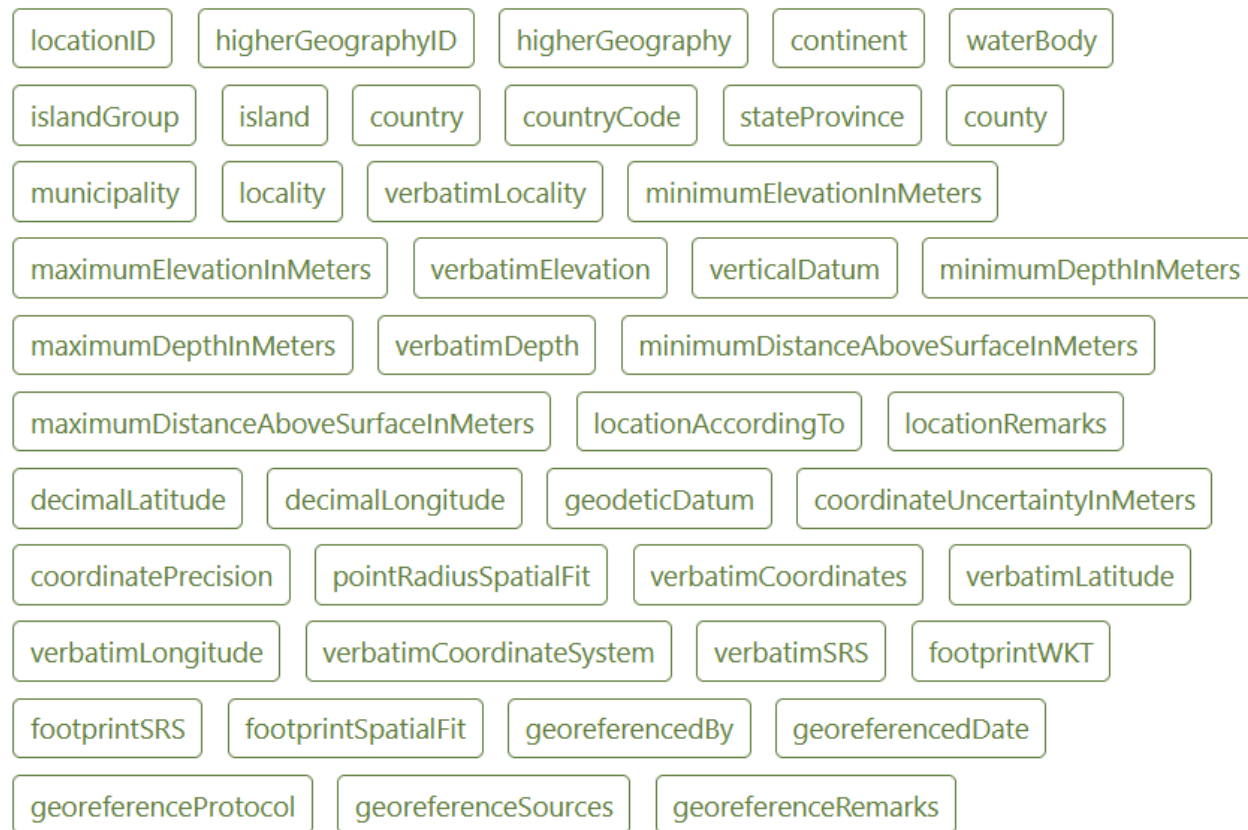
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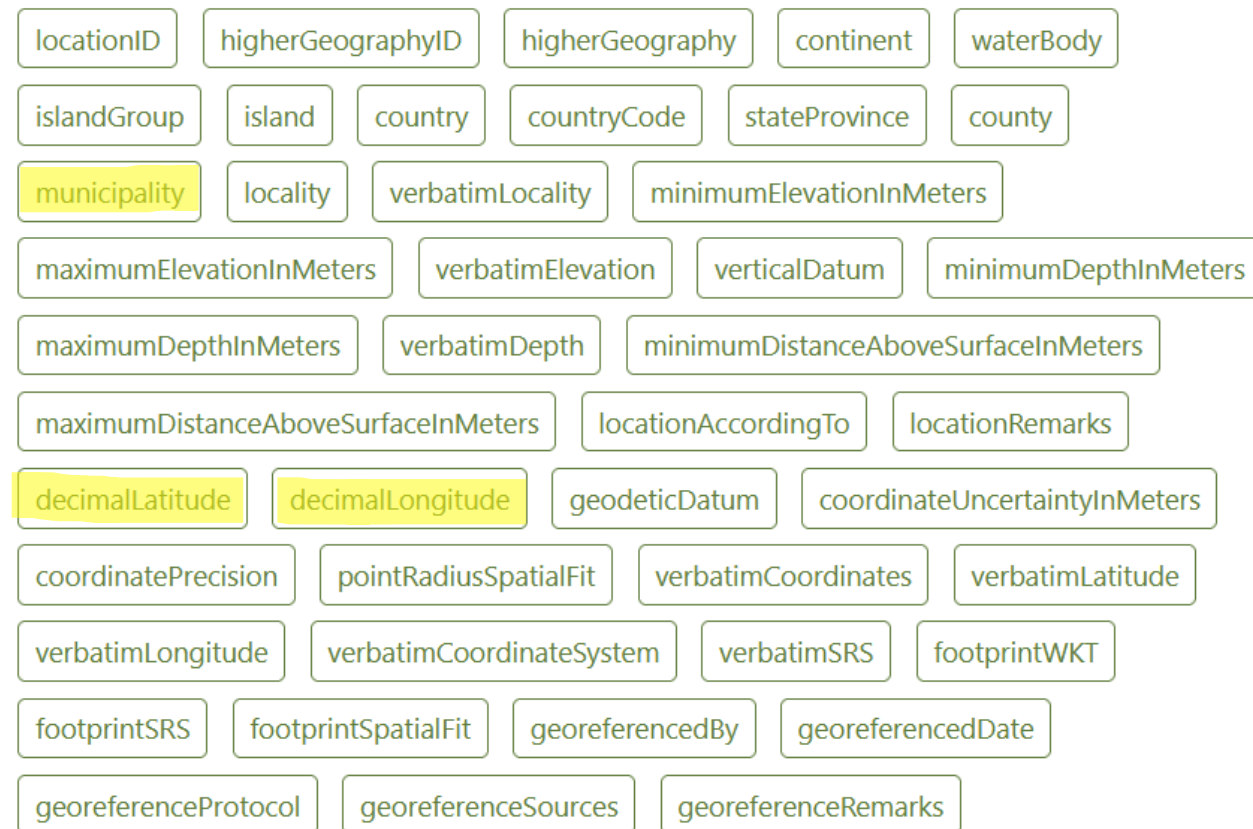




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1	organismName	vernacularName	scientificName	identifiedBy	identifiedByID	sex	lifeStage	behavior	municipality	decimalLatitude	decimalLongitude
2	Lumi	White Shepherd	Canis lupus	Sonja Kümmer	https://orcid.org/0000-0002-8954-0200	female	adult	sleeping	Hausen b. Würzburg	49.9238	10.0271
3											
4											
5											
6											

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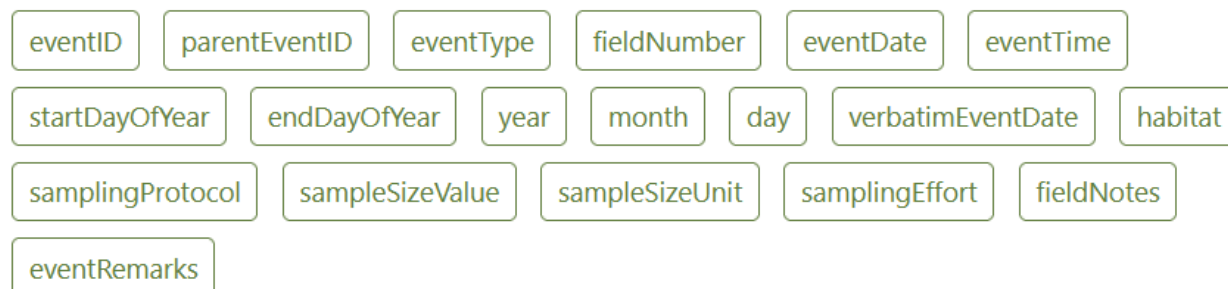
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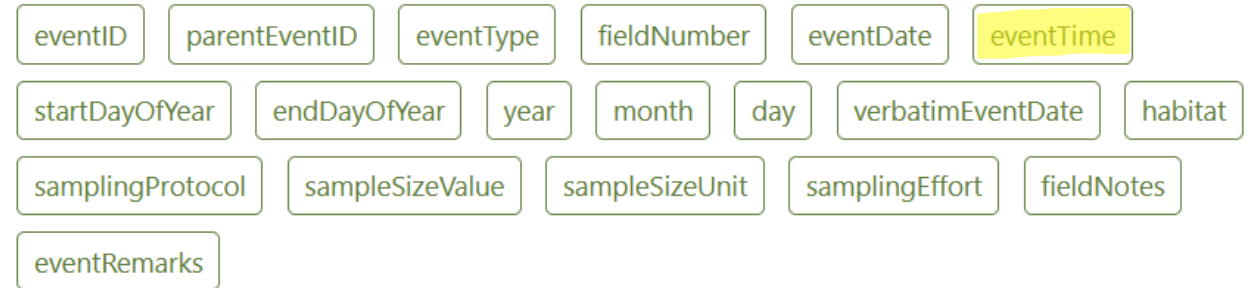




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	A	B	C	D	E	F	G	H	I	J	K	L
1	organismName	vernacularName	scientificName	sex	lifeStage	behavior			municipality	decimalLatitude	decimalLongitude	eventTime
2	Lumi	White Shepherd	Can Son	http	fem adu	sleeping			Hausen b. Würzburg	49.9238	10.0271	2023-07-28T13:00:00
3												
4												
5												

Occurrence datasets

	A	B	C	D	E	F	G	H	I	J	K	L
1	organismName	vernacularName	scientificName	identifiedBy	sex	lifeStage	behavior	municipality	decimalLatitude	decimalLongitude	eventTime	
2	Lumi	White Shepherd	Canis lupus	Sonja K	https://orcid.org/	female	adult	sleeping	Hausen b. Würzburg	49.9238	10.0271	2023-07-28T13:00:00
3	Murphy	European Shorthair	Felis catus	Sonja K	https://orcid.org/	male	juvenile	running	Hausen b. Würzburg	49.9238	10.0271	2023-07-28T14:00:00
4	Uschi	European Shorthair	Felis catus	Sonja K	https://orcid.org/	female	juvenile	playing	Hausen b. Würzburg	49.9239	10.0272	2023-07-28T14:30:01
5												
6												

... offering evidence of the occurrence of a **species** (or other taxon) at a given **place** and **date**.

Simple Darwin Core

1. Any Darwin Core term name can be used as a field name.
2. A field name MUST NOT be repeated in a record.
3. Class names (e.g., *Occurrence*, *Organism*) MUST NOT be used as field names.
4. Data SHOULD be provided in as many fields as possible.
5. The *dc:type* field SHOULD be populated with the name of the most appropriate Dublin Core type class (*PhysicalObject*, *StillImage*, *MovingImage*, *Sound*, *Text*) the record represents.
6. The *basisOfRecord* SHOULD be populated with the name of the most specific Darwin Core class (*LivingSpecimen*, *PreservedSpecimen*, *FossilSpecimen*, *MaterialSample*, *HumanObservation*, *MachineObservation*, *MaterialCitation*, *Event*, *Occurrence*, *Taxon*, *Organism*, *Location*, *GeologicalContext*) the record represents.
7. Fields SHOULD be populated with data that match the definition of the field.
8. Values from a recommended controlled vocabulary SHOULD be used for the values of a field that recommend it.
9. If data are withheld, the field *informationWithheld* SHOULD be populated to say so.
10. If data are shared in lower quality than the original, the field *dataGeneralizations* SHOULD be populated to say so.

**A single
spreadsheet**

Sampling-event data

... Occurrence datasets (species occurrences in time and space)

	A	B	C	D	E	F	G	H	I	J
1	eventID	occurrenceID	basisOfRecord	individualCount	organismQuantity	organismQuantityType	occurrenceStatus	scientificName	kingdom	phylum
2	1382-tr009-s00	1382-tr009-s00-0	HumanObservation	0	0	individuals	absent	Lepidoptera	Animalia	Arthropo
3	3502-tr056-s6	3502-tr056-s6-21114	HumanObservation	3	3	individuals	present	Azanus jesous	Animalia	Arthropo
4	3502-tr056-s6	3502-tr056-s6-21126	HumanObservation	1	1	individuals	present	Melitaea trivia	Animalia	Arthropo
5	3502-tr056-s6	3502-tr056-s6-21127	HumanObservation	3	3	individuals	present	Deudorix livia	Animalia	Arthropo
6	3502-tr056-s6	3502-tr056-s6-21129	HumanObservation	1	1	individuals	present	Azanus ubaldus	Animalia	Arthropo
7	3502-tr056-s6	3502-tr056-s6-21132	HumanObservation	1	1	individuals	present	Lycaena thersamon	Animalia	Arthropo
8	3502-tr056-s9	3502-tr056-s9-21116	HumanObservation	1	1	individuals	present	Azanus jesous	Animalia	Arthropo
9	3502-tr056-s9	3502-tr056-s9-21122	HumanObservation	1	1	individuals	present	Tarucus balkanica	Animalia	Arthropo
10	3502-tr056-s9	3502-tr056-s9-21131	HumanObservation	1	1	individuals	present	Azanus ubaldus	Animalia	Arthropo
11										

+ details of sampling effort

	A	B	C	D	E	F	G	H	I	J
1	eventID	samplingProtocol	samplingEffort	sampleSizeValue	sampleSizeUnit	eventDate	eventTime	startDayOfYear	eventRemarks	country
2	3502-tr056-s6	Pollard walks	Average of 30 Minutes walk along transect	250	square metre	2015-10-19	12:25:02Z/13:10:02Z	291		Israel
3	3502-tr056-s9	Pollard walks	Average of 30 Minutes walk along transect	250	square metre	2015-10-19	12:25:02Z/13:10:02Z	291		Israel