Database Field Guide

Fields denoted with (*) are required and may not be left blank. Those not denoted with this may be assumed to allow empty values, disregarding the specified formatting for these cases where the data for the field is not present.

Fields that do not have any generalized, restricted formatting will have relaxed insertion requirements. You may see additional information about what the field is by referencing the [Darwin Core](#) guide.

Note: Some fields are automatically generated/determined, these fields should **not** be included in the CSV for batch insertions. An example is `recordEnteredBy`, the credentials of the logged in user will be applied for this information.

To see available countries, please refer to the [Countries](#) section at the end of this file.

Available Specimen Fields:

(click to view formatting information)

- [catalogNumber](#)
- [otherCatalogNumber](#)
- [recordNumber](#)
- [otherIdentifier](#)
- [projectNumber](#)
- [order_](#)
- [superfamily](#)
- [family](#)
- [subfamily](#)
- [tribe](#)
- [genus](#)
- [subgenus](#)
- [specificEpithet](#)
- [infraspecificEpithet](#)
- [identificationQualifier](#)
- [recordedBy](#)
- [otherCollectors](#)
- [identifiedBy](#)

- dateIdentified
- verbatimDate
- collectedYear
- collectedMonth
- collectedDay
- dateEntered
- sex
- lifeStage
- habitat
- occurrenceRemarks
- molecularOccurrenceRemarks
- samplingProtocol
- country
- stateProvince
- county
- municipality
- locality
- elevationInMeters
- decimalLatitude
- decimalLongitude
- geodeticDatum
- coordinateUncertainty
- verbatimLatitude
- verbatimLongitude
- georeferencedBy
- disposition
- isLoaned
- loanInstitution
- loaneeName
- loanDate
- loanReturnDate
- preparations
- freezer
- rack
- box

- [tubeSize](#)
- [associatedSequences](#)
- [associatedReferences](#)
- [withholdData](#)
- [reared](#)
- [recordEnteredBy](#)
- [modifiedInfo](#)
- [fieldNotes](#)

catalogNumber *

This is the LEP number. The general format is:

```
LEP followed by 5-8 digits.
No punctuation allowed.
Case sensitive.
Empty values NOT accepted (i.e. must be included)
```

Pa   ing Example

```
LEP12345  LEP123456  LEP1234567  LEP12345678
```

Failing Example

```
LEP1234  LEP-123456  lep1234567
```

otherCatalogNumber

This is the MGCL number. The general format is:

```
MGCL_ followed by 6-8 digits.
No punctuation allowed.
Case sensitive.
```

Pa   ing Example

```
MGCL_123456  MGCL_1234567  MGCL_12345678
```

Failing Example

MGCL_12345 MGCL_123456789 mgcl_12345678 MGCL1234678 MGCL-1234678

```
Superfamily  Super Family
```

Failing Example

```
superfamily  super family  super-family  SuPerFamilY  Superfamily?
```

family

Linnaean Family. The formatting is:

```
Capitalized first letter for each separate word.
No random capitalization (i.e. no capitalizations in the middle of a word).
No punctuation.
```

```
Family  Other Family
```

Failing Example

```
family  other family  other-family  FamilY  Family?
```

subfamily

Linnaean Subfamily. The formatting is:

```
Capitalized first letter for each separate word.
No random capitalization (i.e. no capitalizations in the middle of a word).
No punctuation.
```

```
Subfamily  Sub Family
```

Failing Example

```
subfamily  sub family  sub-family  subFamilY  Subfamily?
```

tribe

Linnaean Tribe. The formatting is:

```
Capitalized first letter for each separate word.
No random capitalization (i.e. no capitalizations in the middle of a word).
No punctuation.
```

Pa ing Example

```
Tribe  Tribe Name
```

Failing Example

```
tribe  tribe name  tribe-name  tRibE  Tribe?
```

genus

Linnaean Genus. The formatting is:

```
Capitalized first letter for each separate word.
No random capitalization (i.e. no capitalizations in the middle of a word).
No punctuation.
```

Pa ing Example

```
Genus  Genus Name
```

Failing Example

```
genus  genus name  genus-name  gEnuS  Genus?
```

subgenus

Linnaean Subgenus. The formatting is:

```
Capitalized first letter for each separate word.
No random capitalization (i.e. no capitalizations in the middle of a word).
No punctuation.
```

Pa ing Example

```
Subgenus  Subgenus Name
```

specificEpithet

Linnaean Species. The formatting is:

```
Lowercase first letter for each separate word.
No random capitalization (i.e. no capitalizations in the middle of a word).
No punctuation.
```

Pa ing Example

`species` `species name`

Failing Example

`Species` `Species Name` `Species-name` `SpeCiEs` `Species?`

infraspecificEpithet

Linnaean Subspecies. The formatting is:

```
Lowercase first letter for each separate word.
No random capitalization (i.e. no capitalizations in the middle of a word).
No punctuation.
```

Pa ing Example

`subspecies` `subspecies name`

Failing Example

`Subspecies` `Subspecies Name` `Subspecies-name` `SubSpeCiEs` `subspecies?`

identificationQualifier

Identification qualifier for the specimen. Case sensitive, and must match one (only one) of the control values exactly:

```
aff  cf  near  sensu stricto  sensu lato
```

Darwin Core: A brief phrase or a standard term ("cf.", "aff.") to express the determiner's doubts about the Identification.

recordedBy

The primary collector's name, should only be one name pair. The general format is:

```
First Last
```

Pa   ing Example

```
Leopold,Aaron  Aaron Leopold  Leopold,Unknown  Unknown Leopold
```

Failing Example

```
Leopold,aaron  aaron leopold  Aaron  Unknown Unknown
```

otherCollectors

The names of the collectors other than the primary collector, may be multiple names.

This follows the standard, name list format:

```
First Last
First Last | First2 Last2
First Last|First2 Last2
```

Please note: I am using numbers to indicate different names, however numbers are not allowed in this field. The list separator must be the pipe character '|'.

Pa   ing Example

```
Brad Millen | Kristina Yamamoto | Janet Fang
```

Failing Example

```
Millen,Brad | Yamamoto,Kristina | Fang,Janet  Millen,Brad, Yamamoto,Kristina,
Fang,Janet
```

identifiedBy

The name(s) of who identified the specimen, may be multiple names.

Darwin Core: A list (concatenated and separated) of names of people, groups, or organizations who assigned the Taxon to the subject.

This follows the standard, name list format:

```
First Last
First Last | First2 Last2
First Last|First2 Last2
```

Please note: I am using numbers to indicate different names, however numbers are not allowed in this field. The list separator must be the pipe character '|'.

Pa ing Example

```
Brad Millen | Kristina Yamamoto | Janet Fang
```

Failing Example

```
Millen,Brad | Yamamoto,Kristina | Fang,Janet  Millen,Brad, Yamamoto,Kristina,
Fang,Janet
```

dateIdentified

The date in which the specimen was identified.

Darwin Core: The date on which the subject was determined as representing the Taxon.

This follows the general date format:

```
YYYY-MM-DD
YYYY-MM
YYYY
```

May not be future dates, or dates that preceed reasonable floor thresholds (e.g. less than 999)

verbatimDate

The verbatim date as it is written on the label (if present). This has no structured format as it is a record of whatever is hand written

General Example

```
Jan-Jun 2019
```

collectedYear

Year of collection. This follows the general date format, only concerning the year. I.e.: `YYYY`

May not be future dates, or dates that preceed reasonable floor thresholds (e.g. less than 999)

collectedMonth

Month (as a number, 1-12) of collection. This follows the general date format, only concerning the month. I.e.: `MM`

collectedDay

Day (as a number, 1-31) of collection. This follows the general date format, only concerning the day. I.e.: `DD`

dateEntered

The date in which the specimen was entered in the system. This follows the general date format:

```
YYYY—MM—DD
```

If left empty, an automated time stamp will be assigned on the insert query.

May not be future dates, or dates that preceed reasonable floor thresholds (e.g. less than 999).

sex

The sex of the specimen. Must match the *first letter* of one of the control values:

```
Male  Female  Gynandromorph
```

Darwin Core: The sex of the biological individual(s) represented in the Occurrence.

Pa ing Example

```
M  F  G
```

Failing Example

```
Male  Female  Gynandromorph
```

lifeStage

The life stage the specimen is in. Must match one (only one) of the control values exactly (case sensitive):

```
egg  larva  pupa  adult
```

Darwin Core: The age class or life stage of the biological individual(s) at the time the Occurrence was recorded.

habitat

Darwin Core: A category or description of the habitat in which the Event occurred.

There are no generalized formatting schemas for this field

General Example

```
oak savanna  pre-cordilleran steppe
```

occurrenceRemarks

Remarks from the collector. Not generalized formatting schemas for this field

Darwin Core: Comments or notes about the Occurrence.

molecularOccurrenceRemarks

Remarks from the collector. Not generalized formatting schemas for this field

samplingProtocol

The protocol in which the specimen was sampled. May be a list, where each item matches a control value exactly (case sensitive):

```
HandDirect  NetAerial  Light  LightUV  LightMV  LightMH  LightLED  LightOther  Bait
TrapMalaise  Trap
```

The format of the list follows previous field formatting, in that it must be delimited using the pipe '|' character.

Darwin Core: The name of, reference to, or description of the method or protocol used during an Event.

Pa   ing Example

```
NetAerial  LightUV|LightLED
```

Failing Example

```
UV Light  LightUV,LightLED
```

```
example
```

country

Country of the collection. Must be in the list of accepted countries, matching exactly (case sensitive).

You may find the list here: `https://github.com/FLMNH-MGCL/spesql/blob/typescript-rewrite/src/renderer/assets/countries.ts` , or you may them at this end of this file. This list is a TypeScript array of Country objects, containing a `name` and `code` field like so:

```
// generalized structure of a country object
type Country = {
  name: string;
  code: string;
};

// example country object
const exampleCountry = {
  name: 'Afghanistan',
  code: 'AF',
};
```

Please ensure the value matches the `name` field, **not** the `code` field

stateProvince

The State or Province of the collected specimen. Follows traditional proper noun formatting:

```
Capitalize first letter of each word.
No random capitalization.
```

county

The County of the collected specimen. Follows traditional proper noun formatting:

```
Capitalize first letter of each word.
No random capitalization.
```

municipality

The Municipality of the collected specimen. Follows traditional proper noun formatting:

```
Capitalize first letter of each word.
No random capitalization.
```

Darwin Core: The full, unabbreviated name of the next smaller administrative region than county (city, municipality, etc.) in which the Location occurs. Do not use this term for a nearby named place that does not contain the actual location.

Darwin Core Recommendation: Recommended best practice is to use a controlled vocabulary such as the Getty Thesaurus of Geographic Names.

General Example

```
 Holzminden  Araçatuba  Ga-Segonyana
```

locality

The Locality data of the collected specimen. No generalized formatting in place.

Darwin Core: The specific description of the place. Less specific geographic information can be provided in other geographic terms. This term may contain information modified from the original to correct perceived errors or standardize the description.

General Example

```
Bariloche, 25 km NNE via Ruta Nacional 40 (=Ruta 237)
```

elevationInMeters

The elevation at which the specimen was located. Measurements will be converted to meters, however please ensure the unit is either:

`m` for meters, `mi` for miles, `ft` for feet

Pa ing Example

```
50m  1mi  100ft
```

Failing Example

```
50 meters  1 mile  1 foot  100
```

decimalLatitude

The latitude the specimen was located at. The value may be a floating point number (decimal) between -90 and 90.

```
-90 <= latitude <= 90
```

decimalLongitude

The longitude the specimen was located at. The value may be a floating point number (decimal) between -180 and 180.

```
-180 <= longitude <= 180
```

geodeticDatum

The coordinate system used. Must match one (only one) of the control values (case sensitive):

```
EPSG:4326  WGS84  NAD27  Campo Inchauspe  European 1950  Clarke 1866  Unknown
```

Darwin Core: The ellipsoid, geodetic datum, or spatial reference system (SRS) upon which the geographic coordinates given in decimalLatitude and decimalLongitude as based.

coordinateUncertainty

The value indicating the uncertainty of the recorded coordinates at which the specimen was located. Measurements will be converted to meters, however please ensure the unit is either:

`m` for meters, `mi` for miles, `ft` for feet

Darwin Core: The horizontal distance (in meters) from the given decimalLatitude and decimalLongitude describing the smallest circle containing the whole of the Location. Leave the value empty if the uncertainty is unknown, cannot be estimated, or is not applicable (because there are no coordinates). Zero is not a valid value for this term.

Pa ing Example

```
50m  1mi  100ft
```

Failing Example

```
50 meters  1 mile  1 foot  100  0m  0
```

verbatimLatitude

The latitude as written on the label (if present). No generalized formatting, as this is just a record of what is hand written

verbatimLongitude

The longitude as written on the label (if present). No generalized formatting, as this is just a record of what is hand written

georeferencedBy

Darwin Core: A list (concatenated and separated) of names of people, groups, or organizations who determined the georeference (spatial representation) for the Location.

This follows the standard, name list format:

```
First Last
First Last | First2 Last2
First Last|First2 Last2
```

Pa ing Example

```
Brad Millen | Kristina Yamamoto | Janet Fang
```

Failing Example

```
Millen,Brad | Yamamoto,Kristina | Fang,Janet  Millen,Brad, Yamamoto,Kristina,
Fang,Janet
```

disposition

The disposition (current state) of the specimen as it is currently in the collection. May be a list, where each item matches a control value exactly (case sensitive):

```
Voucher Present  Molecular Present  Pinned Present  Larval Present  GRR Present
```

```
Voucher Missing  Molecular Missing  Pinned Missing  Larval Missing  GRR Missing

Voucher Used Up  Molecular Used Up  GRR Used Up

Voucher On Loan  Molecular On Loan  Pinned On Loan  Larval On Loan  GRR On Loan
```

The format of the list follows previous field formatting, in that it must be delimited using the pipe '|' character.

isLoaned

Indication of if the specimen is on loan. Must be one of the two accepted values (case sensitive):

`Y` for yes, `N` for no

loanInstitution

The name of institution specimen is loaned to. There is no generalized formatting for this field.

If the isLoaned field is indicated as `N` this field is required to be empty.

If the isLoaned field is indicated as `Y` this field is required.

loaneeName

Name of person responsible with specimen while loaned. This follows the general format:

```
First Last
Last,First
```

If the isLoaned field is indicated as `N` this field is required to be empty.

loanDate

Date specimen went on loan

If the isLoaned field is indicated as `N` this field is required to be empty.

If the isLoaned field is indicated as `Y` this field is required.

loanReturnDate

Expected return date for specimen, update to actual when returned.

This follows the general date format:

```
YYYY-MM-DD
YYYY-MM
YYYY
```

May not preceed reasonable floor thresholds (e.g. less than 1990)

preparations

The preparations of the specimen. May be a list, where each item matches a control value exactly (case sensitive):

`Wing Voucher` `Molecular Collection` `Pinned Collection` `Larval Collection` `Genetic Collection`

The format of the list follows previous field formatting, in that it must be delimited using the pipe '|' character.

Darwin Core: A preparation or preservation method for a specimen.

Pa   ing Example

`Wing Voucher` `Wing Voucher | Molecular Collection` `Wing Voucher|Molecular Collection`

Failing Example

```
 wing voucher  Wing Voucher|  Wing Voucher, Molecular Collection  Wing Voucher,Molecular
Collection
```

freezer

The freezer the specimen is stored in (if applicable). The general format is as follows:

```
'Kawahara' followed by two digits:
Kawahara##

OR

GRR
```

Pa ing Example

```
 Kawahara05  Kawahara11  GRR
```

Failing Example

```
 kawahara 5  karahara30  Kawahara119  grr  Grr
```

rack

The rack on/in which the specimen is stored. The general format is:

```
1–3 characters long.
No punctuation.
No numbers, only characters
```

Numbers in a rack field indicate a box value, and should be parsed into the appropriate field (box)

Pa ing Example

```
 B  BB  AA
```

Failing Example

box

Box number of specimen. The general format is:

```
Integer value between 1-99.
1 <= box <= 99
```

tubeSize

The size of the tube/container/other used. It must match one (only one) of the control values:

```
papered  50falcon  15falcon  microcentrifuge
```

associatedSequences

A list of identifiers (publication, bibliographic reference, global unique identifier, URI) of literature associated with the Occurrence.

Note: This field is too complex to validate programmatically, so please refer to the example below to see the manner in which you should structure the list.

General Example

```
http://www.sciencemag.org/cgi/content/abstract/322/5899/261, Christopher J. Conroy,
Jennifer L. Neuwald. 2008. Phylogeographic study of the California vole, Microtus
californicus Journal of Mammalogy, 89(3):755-767., Steven R. Hoofer and Ronald A. Van
Den Bussche. 2001. Phylogenetic Relationships of Plecotine Bats and Allies Based on
Mitochondrial Ribosomal Sequences. Journal of Mammalogy 82(1):131-137. | Walker, Faith
M., Jeffrey T. Foster, Kevin P. Drees, Carol L. Chambers. 2014. Spotted bat (Euderma
maculatum) microsatellite discovery using illumina sequencing. Conservation Genetics
Resources.
```

associatedReferences

A list of identifiers (publication, global unique identifier, URI) of genetic sequence information associated with the Occurrence.

The general format follows the standard list format, and is as follows:

```
link
linkOne|linkTwo
linkOne | linkTwo
```

Pa   ing Example

```
http://www.ncbi.nlm.nih.gov/nuccore/U34853.1 |
http://www.ncbi.nlm.nih.gov/nuccore/GU328060 |
http://www.ncbi.nlm.nih.gov/nuccore/AF326093
```

Failing Example

```
http://www.ncbi.nlm.nih.gov/nuccore/U34853.1,
http://www.ncbi.nlm.nih.gov/nuccore/GU328060,
http://www.ncbi.nlm.nih.gov/nuccore/AF326093
```

withholdData

Indication of if there was data withheld. Must be one of the two accepted values (case sensitive):

`Y` for yes, `N` for no

Note: please refer to informationWithheld in Darwin Core to view more about what this field is

reared

Indication of if the specimen has been reared. Must be one of the two accepted values (case sensitive):

`Y` for yes, `N` for no

recordEnteredBy

The (spesql) credentials of the individual inserting this into the database. This is automatically determined, **DO NOT** manually attempt to insert this field. The insertion will fail.

This field is available for logging and querying.

modifiedInfo

The edit history of this entry in the database. This is automatically determined and updated as changes to the entry are made, **DO NOT** manually attempt to insert this field. The insertion will fail.

This field is available for logging and querying.

fieldNotes

Notes from field, other notes about specimen. There is no specified formatting to follow

Countries

Country Name	Country Code
Afghanistan	AF
Åland Islands	AX
Albania	AL
Algeria	DZ
American Samoa	AS
AndorrA	AD

Country Name	Country Code
Angola	AO
Anguilla	AI
Antarctica	AQ
Antigua and Barbuda	AG
Argentina	AR
Armenia	AM
Aruba	AW
Australia	AU
Austria	AT
Azerbaijan	AZ
Bahamas	BS
Bahrain	BH
Bangladesh	BD
Barbados	BB
Belarus	BY
Belgium	BE
Belize	BZ
Benin	BJ
Bermuda	BM
Bhutan	BT
Bolivia	BO
Bosnia and Herzegovina	BA
Botswana	BW
Bouvet Island	BV
Brazil	BR

Country Name	Country Code
British Indian Ocean Territory	IO
Brunei Darussalam	BN
Bulgaria	BG
Burkina Faso	BF
Burundi	BI
Cambodia	KH
Cameroon	CM
Canada	CA
Cape Verde	CV
Cayman Islands	KY
Central African Republic	CF
Chad	TD
Chile	CL
China	CN
Christmas Island	CX
Cocos (Keeling) Islands	CC
Colombia	CO
Comoros	KM
Congo	CG
Congo, The Democratic Republic of the	CD
Cook Islands	CK
Costa Rica	CR
Cote D'Ivoire	CI
Croatia	HR
Cuba	CU

Country Name	Country Code
Cyprus	CY
Czech Republic	CZ
Denmark	DK
Djibouti	DJ
Dominica	DM
Dominican Republic	DO
Ecuador	EC
Egypt	EG
El Salvador	SV
Equatorial Guinea	GQ
Eritrea	ER
Estonia	EE
Ethiopia	ET
Falkland Islands (Malvinas)	FK
Faroe Islands	FO
Fiji	FJ
Finland	FI
France	FR
French Guiana	GF
French Polynesia	PF
French Southern Territories	TF
Gabon	GA
Gambia	GM
Georgia	GE
Germany	DE

Country Name	Country Code
Ghana	GH
Gibraltar	GI
Greece	GR
Greenland	GL
Grenada	GD
Guadeloupe	GP
Guam	GU
Guatemala	GT
Guernsey	GG
Guinea	GN
Guinea-Bissau	GW
Guyana	GY
Haiti	HT
Heard Island and Mcdonald Islands	HM
Holy See (Vatican City State)	VA
Honduras	HN
Hong Kong	HK
Hungary	HU
Iceland	IS
India	IN
Indonesia	ID
Iran, Islamic Republic Of	IR
Iraq	IQ
Ireland	IE
Isle of Man	IM

Country Name	Country Code
Israel	IL
Italy	IT
Jamaica	JM
Japan	JP
Jersey	JE
Jordan	JO
Kazakhstan	KZ
Kenya	KE
Kiribati	KI
Korea, Democratic People'S Republic of	KP
Korea, Republic of	KR
Kuwait	KW
Kyrgyzstan	KG
Lao People's Democratic Republic	LA
Latvia	LV
Lebanon	LB
Lesotho	LS
Liberia	LR
Libyan Arab Jamahiriya	LY
Liechtenstein	LI
Lithuania	LT
Luxembourg	LU
Macao	MO
Macedonia, The Former Yugoslav Republic of	MK
Madagascar	MG

Country Name	Country Code
Malawi	MW
Malaysia	MY
Maldives	MV
Mali	ML
Malta	MT
Marshall Islands	MH
Martinique	MQ
Mauritania	MR
Mauritius	MU
Mayotte	YT
Mexico	MX
Micronesia, Federated States of	FM
Moldova, Republic of	MD
Monaco	MC
Mongolia	MN
Montserrat	MS
Morocco	MA
Mozambique	MZ
Myanmar	MM
Namibia	NA
Nauru	NR
Nepal	NP
Netherlands	NL
Netherlands Antilles	AN
New Caledonia	NC

Country Name	Country Code
New Zealand	NZ
Nicaragua	NI
Niger	NE
Nigeria	NG
Niue	NU
Norfolk Island	NF
Northern Mariana Islands	MP
Norway	NO
Oman	OM
Pakistan	PK
Palau	PW
Palestinian Territory, Occupied	PS
Panama	PA
Papua New Guinea	PG
Paraguay	PY
Peru	PE
Philippines	PH
Pitcairn	PN
Poland	PL
Portugal	PT
Puerto Rico	PR
Qatar	QA
Reunion	RE
Romania	RO
Russian Federation	R

Country Name	Country Code
RWANDA	RW
Saint Helena	SH
Saint Kitts and Nevis	KN
Saint Lucia	LC
Saint Pierre and Miquelon	PM
Saint Vincent and the Grenadines	VC
Samoa	WS
San Marino	SM
Sao Tome and Principe	ST
Saudi Arabia	SA
Senegal	SN
Serbia and Montenegro	CS
Seychelles	SC
Sierra Leone	SL
Singapore	SG
Slovakia	SK
Slovenia	SI
Solomon Islands	SB
Somalia	SO
South Africa	ZA
South Georgia and the South Sandwich Islands	GS
Spain	ES
Sri Lanka	LK
Sudan	SD
Suriname	SR

Country Name	Country Code
Svalbard and Jan Mayen	SJ
Swaziland	SZ
Sweden	SE
Switzerland	CH
Syrian Arab Republic	SY
Taiwan, Province of China	TW
Tajikistan	TJ
Tanzania, United Republic of	TZ
Thailand	TH
Timor-Leste	TL
Togo	TG
Tokelau	TK
Tonga	TO
Trinidad and Tobago	TT
Tunisia	TN
Turkey	TR
Turkmenistan	TM
Turks and Caicos Islands	TC
Tuvalu	TV
Uganda	UG
Ukraine	UA
United Arab Emirates	AE
United Kingdom	GB
United States	US
United States Minor Outlying Islands	UM

Country Name	Country Code
Uruguay	UY
Uzbekistan	UZ
Vanuatu	VU
Venezuela	VE
Vietnam	VN
Virgin Islands, British	VG
Virgin Islands, U.S.	VI
Wallis and Futuna	WF
Western Sahara	EH
Yemen	YE
Zambia	ZM
Zimbabwe	ZW