

Versioned Archive and Review of Biotic
Interactions and Taxon Names Found within
globalbioticinteractions/ucsb-cch
hash://md5/0c141dbf5232efb9bb82bc54bfca39c6

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<https://github.com/globalbioticinteractions/ucsb-cch/issues>

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Abstract

Life on Earth is sustained by complex interactions between organisms and their environment. These biotic interactions can be captured in datasets and published digitally. We present a review and archiving process for such an openly accessible digital interactions dataset of known origin and discuss its outcome. The dataset under review, named globalbioticinteractions/ucsb-cch, has fingerprint hash://md5/0c141dbf5232efb9bb82bc54bfca39c6, is 13.5MiB in size and contains 25,489 interactions with 3 unique types of associations (e.g., interactsWith) between 3,384 primary taxa (e.g., *Pinus ponderosa*) and 7,872 associated taxa (e.g., *Quercus agrifolia*). This report includes detailed summaries of interaction data, a taxonomic review from multiple catalogs, and an archived version of the dataset from which the reviews are derived.

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Introduction

Data Review and Archive

Data review and archiving can be a time-consuming process, especially when done manually. This review report aims to help facilitate both activities. It automates the archiving of datasets, including Darwin Core archives, and is a citable backup of a version of the dataset. Additionally, an automatic review of species interaction claims made in the dataset is generated and registered with Global Biotic Interactions (J. H. Poelen, Simons, and Mungall 2014).

This review includes summary statistics about, and observations about, the dataset under review :

University of California Santa Barbara Herbarium <https://github.com/globalbioticinteractions/ucsb-cch/archive/a78b084649efc15b4b47d5b380950b5a64260802.zip> 2026-01-24T06:22:10.288Z hash://md5/0c141dbf5232efb9bb82bc54bfca39c6

For additional metadata related to this dataset, please visit <https://github.com/globalbioticinteractions/ucsb-cch> and inspect associated metadata files including, but not limited to, *README.md*, *eml.xml*, and/or *globi.json*.

Methods

The review is performed through programmatic scripts that leverage tools like Preston (Elliott et al. 2025), Elton (Kuhn, Poelen, and Leinweber 2025), Nomer (Salim and Poelen 2025), globinizer (J. Poelen, Seltmann, and Mietchen 2024) combined with third-party tools like grep, mlr, tail and head.

Table 1: Tools used in this review process

tool name	version
preston	0.11.1
elton	0.16.4
nomer	0.5.17
globinizer	0.4.0
mlr	6.0.0
jq	1.6
yq	4.25.3
pandoc	3.1.6.1
duckdb	1.3.1
mapserver	7.6.4

The review process can be described in the form of the script below ¹.

```
# get versioned copy of the dataset (size approx. 13.5MiB) under review
elton pull globalbioticinteractions/ucsb-cch

# generate review notes
elton review globalbioticinteractions/ucsb-cch\
> review.tsv

# export indexed interaction records
elton interactions globalbioticinteractions/ucsb-cch\
> interactions.tsv

# export names and align them with the Catalogue of Life using Nomer
elton names globalbioticinteractions/ucsb-cch\
| nomer append col\
> name-alignment.tsv
```

or visually, in a process diagram.

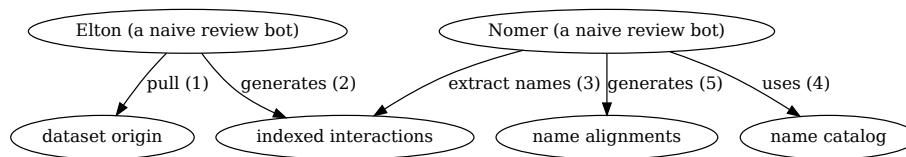


Figure 1: Review Process Overview

¹Note that you have to first get the data (e.g., via `elton pull globalbioticinteractions/ucsb-cch`) before being able to generate reviews (e.g., `elton review globalbioticinteractions/ucsb-cch`), extract interaction claims (e.g., `elton interactions globalbioticinteractions/ucsb-cch`), or list taxonomic names (e.g., `elton names globalbioticinteractions/ucsb-cch`)

You can find a copy of the full review script at `check-data.sh`. See also GitHub and Codeberg.

Results

In the following sections, the results of the review are summarized ². Then, links to the detailed review reports are provided.

Files

The following files are produced in this review:

filename	description
biblio.bib	list of bibliographic reference of this review
check-dataset.sh	data review workflow/process as expressed in a bash script
data.zip	a versioned archive of the data under review
HEAD	the digital signature of the data under review
index.docx	review in MS Word format
index.html	review in HTML format
index.md	review in Pandoc markdown format
index.pdf	review in PDF format
indexed-citations.csv.gz	list of distinct reference citations for reviewed species interaction claims in gzipped comma-separated values file format
indexed-citations.html.gz	list of distinct reference citations for reviewed species interactions claims in gzipped html file format
indexed-citations.tsv.gz	list of distinct reference citations for reviewed species interaction claims in gzipped tab-separated values format
indexed-interactions-col-family-col-family.svg	network diagram showing the taxon family to taxon family interaction claims in the dataset under review as interpreted by the Catalogue of Life via Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024)

²Disclaimer: The results in this review should be considered friendly, yet naive, notes from an unsophisticated robot. Please keep that in mind when considering the review results.

filename	description
indexed-interactions-col-kingdom-col-kingdom.svg	network diagram showing the taxon kingdom to taxon kingdom interaction claims in the dataset under review as interpreted by the Catalogue of Life via Nomen Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024)
indexed-interactions.csv.gz	species interaction claims indexed from the dataset under review in gzipped comma-separated values format
indexed-interactions.html.gz	species interaction claims indexed from the dataset under review in gzipped html format
indexed-interactions.tsv.gz	species interaction claims indexed from the dataset under review in gzipped tab-separated values format
indexed-interactions.parquet	species interaction claims indexed from the dataset under review in Apache Parquet format
indexed-interactions.png	species interaction claims indexed from the dataset under review plotted on a map
indexed-interactions.gpkg	species interaction claims indexed from the dataset under review in GeoPackage format
indexed-interactions-h3.gpkg	geospatially clustered h3 species interaction claims indexed from the dataset under review in GeoPackage format
indexed-interactions-sample.csv	list of species interaction claims indexed from the dataset under review in gzipped comma-separated values format
indexed-interactions-sample.html	first 500 species interaction claims indexed from the dataset under review in html format
indexed-interactions-sample.tsv	first 500 species interaction claims indexed from the dataset under review in tab-separated values format
indexed-names.csv.gz	taxonomic names indexed from the dataset under review in gzipped comma-separated values format
indexed-names.html.gz	taxonomic names found in the dataset under review in gzipped html format

filename	description
indexed-names.tsv.gz	taxonomic names found in the dataset under review in gzipped tab-separated values format
indexed-names.parquet	taxonomic names found in the dataset under review in Apache Parquet format
indexed-names-resolved-col.csv.gz	taxonomic names found in the dataset under review aligned with the Catalogue of Life as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-col.html.gz	taxonomic names found in the dataset under review aligned with the Catalogue of Life as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-col.tsv.gz	taxonomic names found in the dataset under review aligned with the Catalogue of Life as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-col.parquet	taxonomic names found in the dataset under review aligned with the Catalogue of Life as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-discoverlife.csv.gz	taxonomic names found in the dataset under review aligned with Discover Life bee species checklist as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format

filename	description
indexed-names-resolved-discoverlife.html.gz	taxonomic names found in the dataset under review aligned with Discover Life bee species checklist as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-discoverlife.tsv.gz	taxonomic names found in the dataset under review aligned with Discover Life bee species checklist as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-discoverlife.parquet	taxonomic names found in the dataset under review aligned with Discover Life bee species checklist as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-gbif.csv.gz	taxonomic names found in the dataset under review aligned with GBIF Backbone Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-gbif.html.gz	taxonomic names found in the dataset under review aligned with GBIF Backbone Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-gbif.tsv.gz	taxonomic names found in the dataset under review aligned with GBIF Backbone Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format

filename	description
indexed-names-resolved-gbif.parquet	taxonomic names found in the dataset under review aligned with GBIF Backbone Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-itis.csv.gz	taxonomic names found in the dataset under review aligned with Integrated Taxonomic Information System (ITIS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-itis.html.gz	taxonomic names found in the dataset under review aligned with Integrated Taxonomic Information System (ITIS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-itis.tsv.gz	taxonomic names found in the dataset under review aligned with Integrated Taxonomic Information System (ITIS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-itis.parquet	taxonomic names found in the dataset under review aligned with Integrated Taxonomic Information System (ITIS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-mdd.csv.gz	taxonomic names found in the dataset under review aligned with the Mammal Diversity Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format

filename	description
indexed-names-resolved-mdd.html.gz	taxonomic names found in the dataset under review aligned with Mammal Diversity Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-mdd.tsv.gz	taxonomic names found in the dataset under review aligned with Mammal Diversity Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-mdd.parquet	taxonomic names found in the dataset under review aligned with Mammal Diversity Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-ncbi.csv.gz	taxonomic names found in the dataset under review aligned with the NCBI Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-ncbi.html.gz	taxonomic names found in the dataset under review aligned with the NCBI Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-ncbi.tsv.gz	taxonomic names found in the dataset under review aligned with the NCBI Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format

filename	description
indexed-names-resolved-ncbi.parquet	taxonomic names found in the dataset under review aligned with the NCBI Taxonomy as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-pbdb.csv.gz	taxonomic names found in the dataset under review aligned with the Paleobiology Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-pbdb.html.gz	taxonomic names found in the dataset under review aligned with Paleobiology Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-pbdb.tsv.gz	taxonomic names found in the dataset under review aligned with Paleobiology Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-pbdb.parquet	taxonomic names found in the dataset under review aligned with Paleobiology Database as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-tpt.csv.gz	taxonomic names found in the dataset under review aligned with the Terrestrial Parasite Tracker (TPT) Taxonomic Resource as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format

filename	description
indexed-names-resolved-tpt.html.gz	taxonomic names found in the dataset under review aligned with the Terrestrial Parasite Tracker (TPT) Taxonomic Resource as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-tpt.tsv.gz	taxonomic names found in the dataset under review aligned with the Terrestrial Parasite Tracker (TPT) Taxonomic Resource as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-tpt.parquet	taxonomic names found in the dataset under review aligned with the Terrestrial Parasite Tracker (TPT) Taxonomic Resource as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-wfo.csv.gz	taxonomic names found in the dataset under review aligned with the World of Flora Online as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-wfo.html.gz	taxonomic names found in the dataset under review aligned with the World of Flora Online as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-wfo.tsv.gz	taxonomic names found in the dataset under review aligned with the World of Flora Online as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format

filename	description
indexed-names-resolved-wfo.parquet	taxonomic names found in the dataset under review aligned with the World of Flora Online as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-resolved-worms.csv.gz	taxonomic names found in the dataset under review aligned with the World Register of Marine Species (WoRMS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped comma-separated values format
indexed-names-resolved-worms.html.gz	taxonomic names found in the dataset under review aligned with the World Register of Marine Species (WoRMS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped html format
indexed-names-resolved-worms.tsv.gz	taxonomic names found in the dataset under review aligned with the World Register of Marine Species (WoRMS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in gzipped tab-separated values format
indexed-names-resolved-worms.parquet	taxonomic names found in the dataset under review aligned with the World Register of Marine Species (WoRMS) as accessed through the Nomer Corpus of Taxonomic Resources (J. H. (ed.). Poelen 2024) in Apache Parquet format
indexed-names-sample.csv	first 500 taxonomic names found in the dataset under review in comma-separated values format
indexed-names-sample.html	first 500 taxonomic names found in the dataset under review in html format
indexed-names-sample.tsv	first 500 taxonomic names found in the dataset under review in tab-separated values format

filename	description
interaction.svg	diagram summarizing the data model used to index species interaction claims
nanopub-sample.trig	first 500 species interaction claims as expressed in the nanopub format (Kuhn and Dumontier 2014)
nanopub.trig.gz	species interaction claims as expressed in the nanopub format (Kuhn and Dumontier 2014)
process.svg	diagram summarizing the data review processing workflow
prov.nq	origin of the dataset under review as expressed in rdf/nquads
review.csv.gz	review notes associated with the dataset under review in gzipped comma-separated values format
review.html.gz	review notes associated with the dataset under review in gzipped html format
review.tsv.gz	review notes associated with the dataset under review in gzipped tab-separated values format
review-sample.csv	first 500 review notes associated with the dataset under review in comma-separated values format
review-sample.html	first 500 review notes associated with the dataset under review in html format
review-sample.tsv	first 500 review notes associated with the dataset under review in tab-separated values format
review.svg	a review badge generated as part of the dataset review process
zenodo.json	metadata of this review expressed in Zenodo record metadata

Archived Dataset

Note that *data.zip* file in this archive contains the complete, unmodified archived dataset under review.

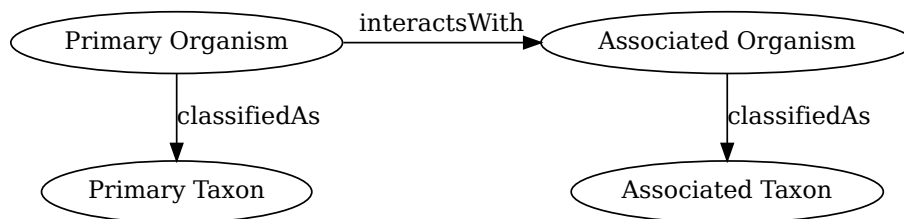


Figure 2: Biotic Interaction Data Model

Biotic Interactions

In this review, biotic interactions (or biotic associations) are modeled as a primary (aka subject, source) organism interacting with an associate (aka object, target) organism. The dataset under review classified the primary/associate organisms with specific taxa. The primary and associate organisms The kind of interaction is documented as an interaction type.

The dataset under review, named `globalbioticinteractions/ucsb-cch`, has fingerprint hash: `//md5/0c141dbf5232efb9bb82bc54bfca39c6`, is 13.5MiB in size and contains 25,489 interactions with 3 unique types of associations (e.g., `interactsWith`) between 3,384 primary taxa (e.g., *Pinus ponderosa*) and 7,872 associated taxa (e.g., *Quercus agrifolia*).

An exhaustive list of indexed interaction claims can be found in gzipped csv, tsv, geopackage and parquet archives. To facilitate discovery, a preview of claims available in the gzipped html page at `indexed-interactions.html.gz` are shown below.

The exhaustive list was used to create the following data summaries below.

Table 3: Sample of Indexed Interaction Claims

sourceTaxonName	interactionType	targetTaxonName	referenceCitation
<i>Peucephyllum schottii</i>	<code>interactsWith</code>	<i>Prosopis</i>	https://cch2.org/portal/collections/individual/in
<i>Helianthus niveus</i> subsp. <i>canescens</i>	<code>interactsWith</code>	<i>Bromus</i> spp.	https://cch2.org/portal/collections/individual/in
<i>Helianthus niveus</i> subsp. <i>canescens</i>	<code>interactsWith</code>	<i>Schismus arabicus</i>	https://cch2.org/portal/collections/individual/in
<i>Helianthus niveus</i> subsp. <i>canescens</i>	<code>interactsWith</code>	<i>Malacothrix californica</i>	https://cch2.org/portal/collections/individual/in

Table 4: Most Frequently Mentioned Interaction Types (up to 20 most frequent)

interactionTypeName	count
interactsWith	17529
adjacentTo	7951
hasHost	9

Table 5: Most Frequently Mentioned Primary Taxa (up to 20 most frequent)

sourceTaxonName	count
Pinus ponderosa	139
Calandrinia ciliata	122
Monardella linoidea subsp. oblonga	103
Achnatherum hymenoides	96
Anagallis arvensis	88
Lupinus bicolor	83
Uropappus lindleyi	82
Logfia filaginoides	81
Pinus ponderosa var. scopulorum	80
Amsinckia intermedia	78
Bromus hordeaceus	77
Quercus berberidifolia	76
Castilleja foliolosa	74
Achnatherum speciosum	73
Castilleja affinis subsp. affinis	73
Calochortus catalinae	73
Solanum xanti	68
Abronia umbellata	68
Mirabilis laevis var. crassifolia	68

Table 6: Most Frequently Mentioned Associate Taxa (up to 20 most frequent)

targetTaxonName	count
Quercus agrifolia	204
Artemisia tridentata	178
sandy soil	160
Adenostoma fasciculatum	152
Artemisia californica	149

targetTaxonName	count
level ground	124
Baccharis pilularis	116
Pinus jeffreyi	107
Eriogonum fasciculatum	105
Bromus diandrus	104
south-facing slope	104
Poa secunda	104
Heteromeles arbutifolia	94
Bromus tectorum	92
steep	92
Toxicodendron diversilobum	87
Pinus monophylla	86
west-facing slope	84
Salix lasiolepis	84

Table 7: Most Frequent Interactions between Primary and Associate Taxa (up to 20 most frequent)

sourceTaxonName	interactionType	targetTaxonName	count
Pinus ponderosa	interactsWith	Abies concolor	13
Pinus ponderosa	interactsWith	Abies concolor	10
var. washoensis			
Pinus ponderosa	interactsWith	Populus	9
var. washoensis		tremuloides	
Achnatherum	interactsWith	Purshia	8
hymenoides		tridentata	
Pinus ponderosa	interactsWith	Cercocarpus	8
		ledifolius	
Pinus ponderosa	interactsWith	Artemisia	8
		tridentata	
Achnatherum	interactsWith	Artemisia	7
hymenoides		tridentata	
Pinus ponderosa	interactsWith	Cercocarpus	7
var. washoensis		ledifolius	
Pinus ponderosa	interactsWith	Symphoricarpos	7
Pinus ponderosa	interactsWith	Abies concolor	7
var. scopulorum			
Pinus ponderosa	interactsWith	Pinus flexilis	7
var. scopulorum			
Pinus ponderosa	interactsWith	Pseudotsuga	7
var. scopulorum		menziesii	

sourceTaxonName	interactionType	targetTaxonName	count
Quercus berberidifolia	interactsWith	Adenostoma fasciculatum	6
Quercus john-tuckeri	adjacentTo	openly wooded steep slope	6
Quercus kelloggii	adjacentTo	north slope	6
Toxicoscordion fremontii	interactsWith	Adenostoma fasciculatum.	6
Mirabilis laevis var. crassifolia	interactsWith	Artemisia californica	6
Suaeda esteroa	interactsWith	Monanthochloe	6
Abronia umbellata	interactsWith	Camissonia cheiranthifolia	6

Interaction Networks

The figures below provide a graph view on the dataset under review. The first shows a summary network on the kingdom level, and the second shows how interactions on the family level. It is important to note that both network graphs were first aligned taxonomically using the Catalogue of Life. Please refer to the original (or verbatim) taxonomic names for a more original view on the interaction data.



Figure 3: Interactions on taxonomic kingdom rank as interpreted by the Catalogue of Life download svg

You can download the indexed dataset under review at indexed-interactions.csv.gz. A tab-separated file can be found at indexed-interactions.tsv.gz

Geospatial Distribution

If geospatial information was extracted from the dataset under review, the map below will show their distribution.

Associated data can be found in the geopackage files at indexed-interactions.gpkg for point data and indexed-interactions-h3.gpkg for data clustered in geospatial h3 hexagonals.

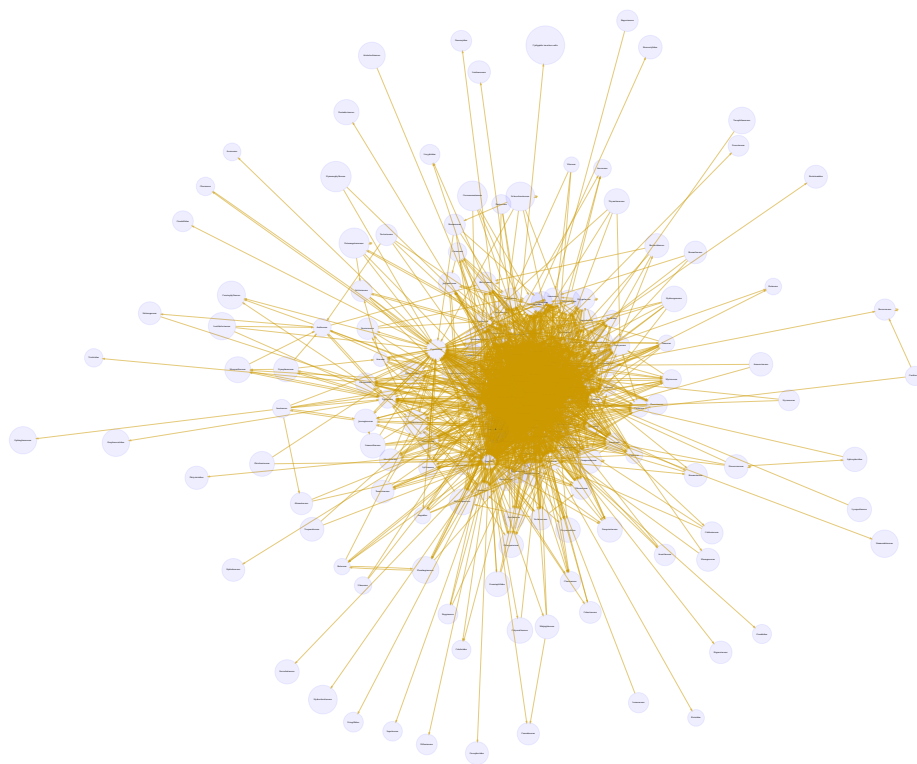


Figure 4: Interactions on the taxonomic family rank as interpreted by the Catalogue of Life. [download svg](#)

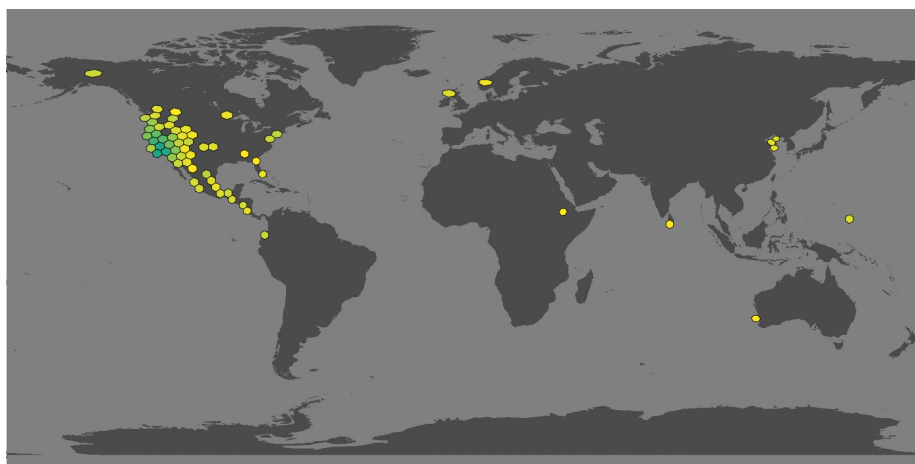


Figure 5: Hexagonal grid cells indicate that interactions claims are available for selected geospatial area: light yellow means relatively fewer claims, dark green relatively more claims.

Learn more about the structure of this download at GloBI website, by opening a GitHub issue, or by sending an email.

Another way to discover the dataset under review is by searching for it on the GloBI website.

Taxonomic Alignment

As part of the review, all names are aligned against various name catalogs (e.g., col, ncbi, discoverlife, gbif, itis, wfo, mdd, tpt, pbdb, and worms). These alignments can help review name usage or aid in selecting of a suitable taxonomic name resource.

Table 8: Sample of Name Alignments

providedName	relationName	resolvedCatalogName	resolvedName
Verbena	NONE	col	Verbena
lasioslachys			lasioslachys
lasioslachys			lasioslachys
Verbena	NONE	col	Verbena
lasioslachys			lasioslachys
scabrida			scabrida
Aphanes	SYNONYM_OF	col	Aphanes arvensis
occidentalis			
Feet below the ridge the upper flat area	NONE	col	Feet below the ridge the upper flat area

Table 9: Distribution of Taxonomic Ranks of Aligned Names by Catalog. Names that were not aligned with a catalog are counted as NAs. So, the total number of unaligned names for a catalog will be listed in their NA row.

resolvedCatalogName	resolvedRank	count
col	NA	4823
col	family	9
col	genus	445
col	section	1
col	species	2823
col	subgenus	2
col	subspecies	122
col	variety	50
discoverlife	NA	8209
gbif	NA	4339

resolvedCatalogName	resolvedRank	count
gbif	family	10
gbif	form	1
gbif	genus	462
gbif	phylum	1
gbif	species	3028
gbif	subspecies	220
gbif	variety	286
itis	NA	4572
itis	division	1
itis	family	10
itis	genus	430
itis	species	2750
itis	subspecies	317
itis	variety	136
mdd	NA	8208
ncbi	NA	5240
ncbi	family	9
ncbi	genus	429
ncbi	species	2500
ncbi	subgenus	3
ncbi	subspecies	18
ncbi	varietas	11
pbdb	NA	7971
pbdb	family	10
pbdb	genus	176
pbdb	phylum	1
pbdb	species	47
pbdb	subgenus	1
pbdb	suborder	1
pbdb	tribe	1
tpt	NA	8203
tpt	genus	5
wfo	NA	4841
wfo	family	10
wfo	genus	434
wfo	species	2868
wfo	subspecies	56
wfo	variety	29
worms	NA	7270
worms	family	9
worms	genus	266
worms	species	656
worms	subspecies	8

Table 10: Name relationship types per catalog. Name relationship type “NONE” means that a name was not recognized by the associated catalog. “SAME_AS” indicates either a “HAS_ACCEPTED_NAME” or “SYNONYM_OF” name relationship type. We recognize that “SYNONYM_OF” encompasses many types of nomenclatural synonymies (ICZN 1999) (e.g., junior synonym, senior synonyms).

resolvedCatalogName	relationName	count
col	NONE	5927
col	SYNONYM_OF	1611
col	HAS_ACCEPTED_NAME	4570
discoverlife	NONE	11309
gbif	SYNONYM_OF	3148
gbif	NONE	5317
gbif	HAS_ACCEPTED_NAME	5869
itis	NONE	5598
itis	HAS_ACCEPTED_NAME	4895
itis	SYNONYM_OF	1004
mdd	NONE	11303
ncbi	NONE	6471
ncbi	SAME_AS	4401
ncbi	SYNONYM_OF	488
pbdb	NONE	10796
pbdb	HAS_ACCEPTED_NAME	508
pbdb	SYNONYM_OF	17
tpt	NONE	11296
tpt	HAS_ACCEPTED_NAME	7
wfo	NONE	5955
wfo	SYNONYM_OF	1162
wfo	HAS_ACCEPTED_NAME	4617
wfo	HAS_UNCHECKED_NAME	229
worms	NONE	9707
worms	HAS_ACCEPTED_NAME	1571
worms	SYNONYM_OF	294

Table 11: List of Available Name Alignment Reports

catalog name	alignment results
col	associated names alignments report in gzipped html, csv, and tsv)
ncbi	associated names alignments report in gzipped html, csv, and tsv)
discoverlife	associated names alignments report in gzipped html, csv, and tsv)
gbif	associated names alignments report in gzipped html, csv, and tsv)
itis	associated names alignments report in gzipped html, csv, and tsv)
wfo	associated names alignments report in gzipped html, csv, and tsv)
mdd	associated names alignments report in gzipped html, csv, and tsv)
tpt	associated names alignments report in gzipped html, csv, and tsv)
pbdb	associated names alignments report in gzipped html, csv, and tsv)
worms	associated names alignments report in gzipped html, csv, and tsv)

Additional Reviews

Elton, Nomer, and other tools may have difficulties interpreting existing species interaction datasets. Or, they may misbehave, or otherwise show unexpected behavior. As part of the review process, detailed review notes are kept that document possibly misbehaving, or confused, review bots. An sample of review notes associated with this review can be found below.

Table 12: First few lines in the review notes.

reviewDate	reviewCommentType	reviewComment
2026-01-29T01:28:11Z	note	found unsupported interaction type with name: [herbariumSpecimenDuplicate]
2026-01-29T01:28:11Z	note	found unsupported interaction type with name: [herbariumSpecimenDuplicate]

reviewDate	reviewCommentType	reviewComment
2026-01-29T01:28:11Z	note	found unsupported interaction type with name: [herbariumSpecimenDuplicate]
2026-01-29T01:28:11Z	note	found unsupported interaction type with name: [herbariumSpecimenDuplicate]

In addition, you can find the most frequently occurring notes in the table below.

Table 13: Most frequently occurring review notes, if any.

reviewComment	count
found unsupported interaction type with name: [herbariumSpecimenDuplicate]	12255
target taxon name missing: using institution-Code/collectionCode/collectionId/catalogNumber/occurrenceId as placeholder	7780
found unsupported interaction type with name: [relationship]	7780
found unsupported interaction type with name: [Assoc. Species]	834

For additional information on review notes, please have a look at the first 500 Review Notes in html format or the download full gzipped csv or tsv archives.

GloBI Review Badge

As part of the review, a review badge is generated. This review badge can be included in webpages to indicate the review status of the dataset under review.



Figure 6: Picture of a GloBI Review Badge ³

Note that if the badge is green, no review notes were generated. If the badge is yellow, the review bots may need some help with interpreting the species interaction data.

³Up-to-date status of the GloBI Review Badge can be retrieved from the GloBI Review Depot

GloBI Index Badge

If the dataset under review has been registered with GloBI, and has been successfully indexed by GloBI, the GloBI Index Status Badge will turn green. This means that the dataset under review was indexed by GloBI and is available through GloBI services and derived data products.



Figure 7: Picture of a GloBI Index Badge ⁴

If you'd like to keep track of reviews or index status of the dataset under review, please visit GloBI's dataset index ⁵ for badge examples.

Discussion

This review and archive provides a means of creating citable versions of datasets that change frequently. This may be useful for dataset managers, including natural history collection data managers, as a backup archive of a shared Darwin Core archive. It also serves as a means of creating a trackable citation for the dataset in an automated way, while also including some information about the contents of the dataset.

This review aims to provide a perspective on the dataset to aid in understanding of species interaction claims discovered. However, it is important to note that this review does *not* assess the quality of the dataset. Instead, it serves as an indication of the open-ness⁶ and FAIRness (Wilkinson et al. 2016; Trekels et al. 2023) of the dataset: to perform this review, the data was likely openly available, **F**indable, **A**ccessible, **I**nteroperable and **R**eusable. The current Open-FAIR assessment is qualitative, and a more quantitative approach can be implemented with specified measurement units.

This report also showcases the reuse of machine-actionable (meta)data, something highly recommended by the FAIR Data Principles (Wilkinson et al. 2016). Making (meta)data machine-actionable enables more precise processing by computers, enabling even naive review bots like Nomer and Elton to interpret the data effectively. This capability is crucial for not just automating the generation of reports, but also for facilitating seamless data exchanges, promoting interoperability.

⁴Up-to-date status of the GloBI Index Badge can be retrieved from GloBI's API

⁵At time of writing (2026-01-29) the version of the GloBI dataset index was available at <https://globalbioticinteractions.org/datasets>

⁶According to <http://opendefinition.org/>: "Open data is data that can be freely used, reused and redistributed by anyone - subject only, at most, to the requirement to attribute and sharealike."

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Author contributions

Nomer was responsible for name alignments. Elton carried out dataset extraction, and generated the review notes. Preston tracked, versioned, and packaged, the dataset under review.

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