A Review of Biotic Interactions and Taxon Names Found in globalbioticinteractions/msu-msuc hash://md5/127160032285ec253d8107a1380815f0

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https://github.com/globalbioticinteractions/msu-msuc/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/msu-msuc, has fingerprint hash://md5/127160032285ec253d8107a1380815f0, is 21.0MiB in size and contains 8,068 interaction with 6 unique types of associations (e.g., interactsWith) between 1,402 primary taxon (e.g., Orchopeas howardi) and 1,676 associated taxon (e.g., S. niger rufiventer). This report includes detailed summaries of interaction data, a taxonomic review from multiple catalogs, and an archived version of the dataset from which the reviews are derived.

Contents

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:

> The Albert J. Cook Arthropod Research Collection https://github.com/globalbioticinteractions/msu-msuc/archive/38960906380443bd8108c9e44aeff4590d8d0b50.zip 2025-04-05T02:30:12.683Z hash://md5/127160032285ec253d8107a1380815f0

For additional metadata related to this dataset, please visit https://github.com/globalbioticinteractions/msu-msuc 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	0.10.1

2

tool name	version
elton	0.15.9
nomer	0.5.13
globinizer	0.4.0
mlr	6.0.0
jq	1.6
yq	4.25.3
pandoc	3.1.6.1

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

```
# get versioned copy of the dataset (size approx. 21.0MiB) under review
elton pull globalbioticinteractions/msu-msuc

# generate review notes
elton review globalbioticinteractions/msu-msuc\
 > review.tsv

# export indexed interaction records
elton interactions globalbioticinteractions/msu-msuc\
 > interactions.tsv

# export names and align them with the Catalogue of Life using Nomer
elton names globalbioticinteractions/msu-msuc\
 | nomer append col\
 > name-alignment.tsv
```
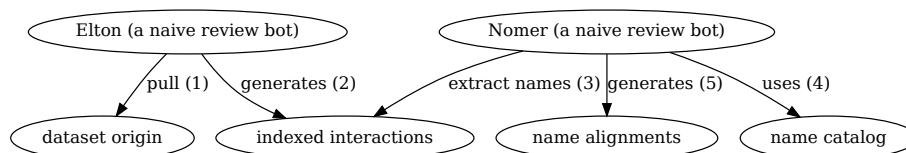
or visually, in a process diagram.

Figure 1: Review Process Overview

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

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

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 Preston (Elliott et al. 2025) 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)

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[2]Disclaimer: 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 kingom 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)
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-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
indexed-names.tsv.gz	taxonomic names found in the dataset under review in gzipped tab-separated values 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

filename	description
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-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
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-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

filename	description
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
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-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-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
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

filename	description
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-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
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-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

filename	description
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
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-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
interaction.svg	diagram summarizing the data model used to index species interaction claims

filename	description
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.

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
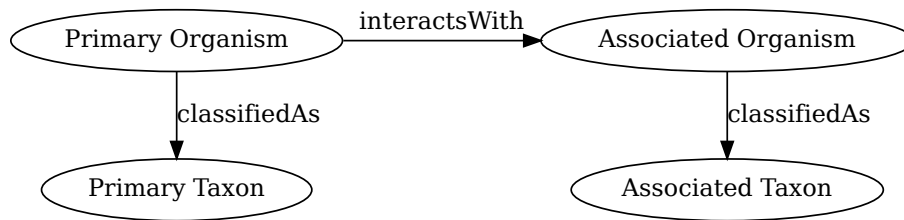
Figure 2: Biotic Interaction Data Model

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/msu-msuc, has fingerprint hash://md5/127160032285ec253d8107a1380815f0, is 21.0MiB in size and contains 8,068 interaction with 6 unique types of associations (e.g., interactsWith) between 1,402 primary taxon (e.g., Orchopeas howardi) and 1,676 associated taxon (e.g., S. niger rufiventer).

An exhaustive list of indexed interaction claims can be found in gzipped csv and tsv 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	interactionTypeName	targetTaxonName	referenceCitation
Amphipyra pyramidoides	adjacentTo	wild grape in sand dunes	https://scan-bugs.org:443/portal/collections/individual/index.
Noctuidae	adjacentTo	scrub oak	https://scan-bugs.org:443/portal/collections/individual/index.
Noctuidae	adjacentTo	scrub oak	https://scan-bugs.org:443/portal/collections/individual/index.
Simyra insularis	adjacentTo	cattail	https://scan-bugs.org:443/portal/collections/individual/index.

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

interactionTypeName	count
interactsWith	7236
adjacentTo	721
hasHost	95

interactionTypeName	count
eats	14
visits	1
killedBy	1

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

sourceTaxonName	count
Orchopeas howardi	485
Macrochelidae	174
Megachile inermis	166
Pyralidae	122
Noctuidae	108
Tortricidae	103
Phthiraptera	89
Hoplopleura hesperomydis	88
Coptotriche citrinipennella	75
Euphyes vestris metacomet	74
Malacosoma californicum	73
Dermanyssidae	69
Hemileuca maia	66
Phyllonorycter	59
Lophocampa maculata	53
Geometridae	53
Megachile latimanus	52
Megachile gemula	51
Bucculatrix ainsliella	49

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

targetTaxonName	count
S. niger rufiventer	293
Quercus	289
Necrophorus pustulatus	175
S. carolinensis	134
Quercus rubra	121
Quercus alba	97
Salix	94
Juglans nigra	81

targetTaxonName	count
on	80
Populus tremuloides	76
Prunus	70
mildweed	67
Quercus bicolor	64
Silpha surinamensis	61
Ostrya virginiana	60
Prunus serotina	59
Centaurea	53
chicken	52
Quercus ellipsoidalis	50

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

sourceTaxonName	interactionTypeName	targetTaxonName	count
Orchopeas howardi	interactsWith	S. niger rufiventer	258
Macrochelidae	interactsWith	Necrophorus pustulatus	141
Orchopeas howardi	interactsWith	S. carolinensis	134
Euphyes vestris metacomet	adjacentTo	mildweed	67
Pyralidae	interactsWith	Juglans nigra	54
Gracillaria syringella	interactsWith	Syringa vulgaris	48
Phyllonorycter	interactsWith	Populus tremuloides	40
Anisota consularis	interactsWith	Q. alba	39
Dorsipes balli	interactsWith	Carabus taedatus	38
Bucculatrix ainsliella	interactsWith	Quercus rubra	36
Megachile inermis	interactsWith	Epilobium angustifolium	36
Hoplopleura hesperomydis	interactsWith	Peromyscus leucopus (Rafinesque) Female	35
Megachile inermis	interactsWith	Cirsium vulgare	35

sourceTaxonName	interactionTypeName	targetTaxonName	count
Orchopeas howardi	hasHost	S. niger rufiventer	34
Phyllonorycter restrictella	interactsWith	Fagus grandifolia	33
Cameraria bethunella	interactsWith	Quercus rubra	32
Macrochelidae	interactsWith	Silpha surinamensis	29
Orchopeas howardi	interactsWith	s. niger rufiventer	28
Endothenia hebesana	interactsWith	Gentiana andrewsii	28

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.

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

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

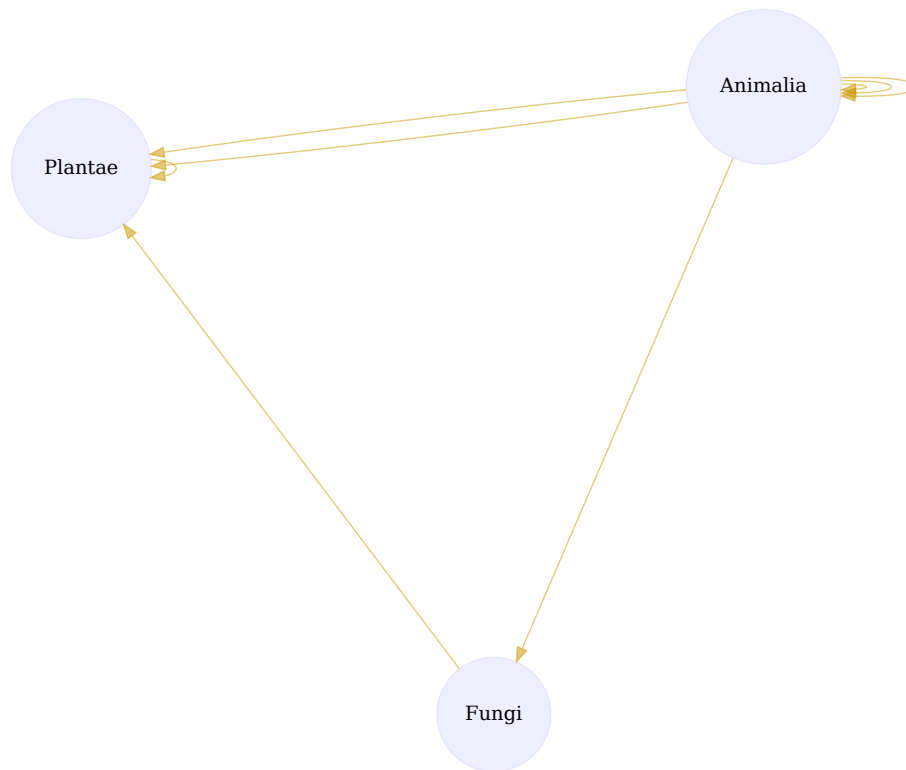| providedName	relationName	resolvedCatalogName	resolvedName
Acronicta	HAS_ACCEPTED_NAME	col	Acronicta
Acyrthosiphon pisum	SYNONYM_OF	col	Acyrthosiphon primulae
Acyrthosiphon pisum	HAS_ACCEPTED_NAME	col	Acyrthosiphon pisum
Acyrthosiphon pisum	SYNONYM_OF	col	Acyrthosiphon pisum pisum

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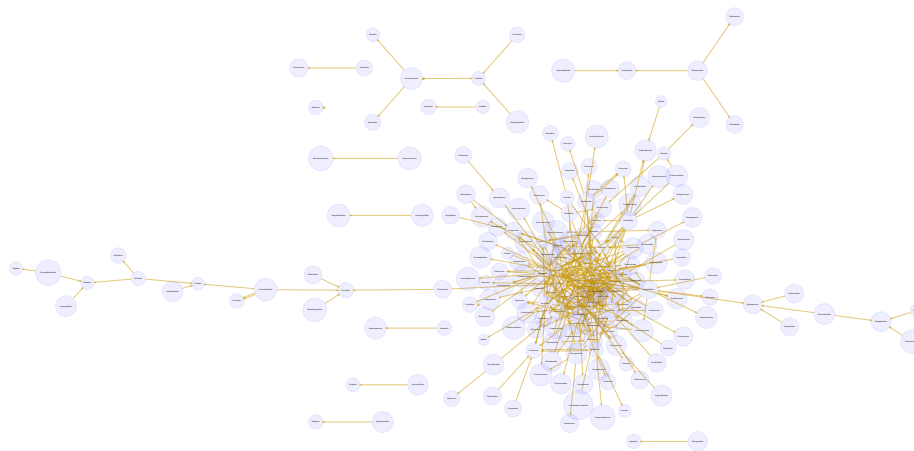

Figure 4: Interactions on the taxonomic family rank as interpreted by the Catalogue of Life. download svg

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	1077
col	family	84
col	genus	255
col	kingdom	1
col	nanorder	1
col	order	4
col	parvorder	1
col	section	1
col	species	1245
col	subclass	1
col	subfamily	13
col	subgenus	10
col	suborder	1
col	subspecies	52
col	superfamily	1
col	superorder	2
col	tribe	1
col	variety	9
discoverlife	NA	2699
discoverlife	species	21
gbif	NA	949
gbif	class	1
gbif	family	95
gbif	genus	278
gbif	kingdom	1
gbif	order	4
gbif	species	1347
gbif	subspecies	70
gbif	variety	14
itis	NA	1454
itis	family	81
itis	genus	211
itis	kingdom	1
itis	order	5
itis	species	890
itis	subclass	1
itis	subfamily	17
itis	suborder	2
itis	subspecies	46

resolvedCatalogName	resolvedRank	count
itis	superfamily	1
itis	superorder	2
itis	variety	10
mdd	NA	2719
ncbi	NA	1184
ncbi	class	1
ncbi	family	85
ncbi	genus	242
ncbi	order	5
ncbi	species	1164
ncbi	subfamily	14
ncbi	subgenus	5
ncbi	suborder	2
ncbi	subspecies	19
ncbi	superfamily	1
ncbi	superorder	2
ncbi	varietas	1
pbdb	NA	2423
pbdb	class	1
pbdb	family	57
pbdb	genus	131
pbdb	kingdom	1
pbdb	order	6
pbdb	species	89
pbdb	subfamily	9
pbdb	suborder	2
pbdb	superfamily	1
pbdb	superorder	2
pbdb	unranked clade	1
tpt	NA	2552
tpt	family	5
tpt	genus	24
tpt	species	138
wfo	NA	2255
wfo	family	3
wfo	genus	143
wfo	phylum	1
wfo	species	311
wfo	subspecies	8
wfo	variety	4
worms	NA	2371
worms	class	1
worms	family	53
worms	genus	125

resolvedCatalogName	resolvedRank	count
worms	infraorder	1
worms	kingdom	1
worms	order	5
worms	species	159
worms	suborder	2
worms	subspecies	1
worms	superorder	2

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	HAS_ACCEPTED_NAME	1652
col	SYNONYM_OF	425
col	NONE	1319
discoverlife	NONE	3072
discoverlife	HAS_ACCEPTED_NAME	21
discoverlife	SYNONYM_OF	5
discoverlife	HOMONYM_OF	3
gbif	HAS_ACCEPTED_NAME	1965
gbif	SYNONYM_OF	647
gbif	NONE	1175
itis	HAS_ACCEPTED_NAME	1267
itis	SYNONYM_OF	154
itis	NONE	1701
mdd	NONE	3040
mdd	HAS_ACCEPTED_NAME	44
ncbi	SAME_AS	1576
ncbi	NONE	1441
ncbi	SYNONYM_OF	95
ncbi	COMMON_NAME_OF	2
pbdb	NONE	2705
pbdb	HAS_ACCEPTED_NAME	378
pbdb	SYNONYM_OF	23
tpt	NONE	2906
tpt	HAS_ACCEPTED_NAME	172
tpt	SYNONYM_OF	70

resolvedCatalogName	relationName	count
wfo	NONE	2525
wfo	SYNONYM_OF	136
wfo	HAS_ACCEPTED_NAME	505
wfo	HAS_UNCHECKED_NAME	69
worms	NONE	2676
worms	HAS_ACCEPTED_NAME	415
worms	SYNONYM_OF	66

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
2025-04-11T20:45:29Z	note	date [0000-01-01T00:00:00Z] occurred in the first century AD
2025-04-11T20:45:29Z	note	date [0000-01-01T00:00:00Z] occurred in the first century AD
2025-04-11T20:45:29Z	note	source taxon name missing: using institution-Code/collectionCode/collectionId/catalogNumber/occur as placeholder
2025-04-11T20:45:30Z	note	found unsupported interaction type with name: [reared ex Caenothus herbaceous recv]

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
source taxon name missing: using institution-Code/collectionCode/collectionId/catalogNumber/occurrenceId as placeholder	138
found unsupported interaction type with name: [reared ex Cercis Canadensis LOT]	5
date [0000-01-01T00:00:00Z] occurred in the first century AD	4
found unsupported interaction type with name: [Andropogon]	4

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 5: 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.

GloBI Index Badge

If the dataset under review has been registered with GloBI, and has been succesfully 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 6: 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

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[3]Up-to-date status of the GloBI Review Badge can be retrieved from the GloBI Review Depot
[4]Up-to-date status of the GloBI Index Badge can be retrieved from GloBI's API
[5]At time of writing (2025-04-11) the version of the GloBI dataset index was available at https://globalbioticinteractions.org/datasets

indication of the open-ness[6] 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 procesing 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.

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

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